ELECTRICAL SOUTH

MARCH, 1950

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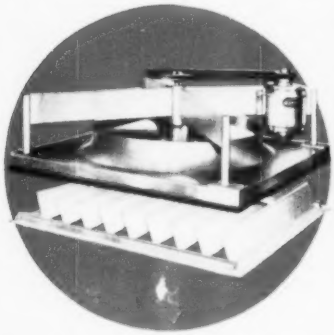
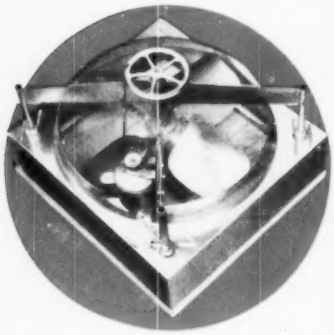
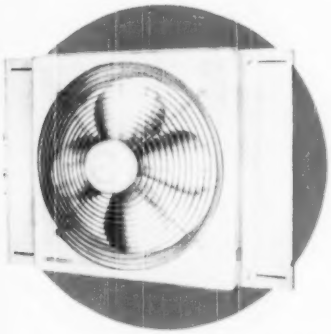


NEW HUNTER PACKAGE ATTIC FAN
With Automatic Ceiling Shutter
4750 or 6800 CFM

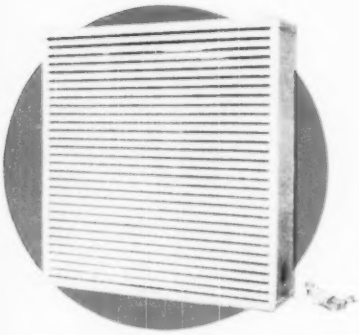


HUNTER PACKAGE ATTIC FANS
With Built-In Pull Chain Shutter
7700 and 9500 CFM

4 Profit Makers



NEW HUNTER 2-SPEED REVERSIBLE
18" WINDOW FAN
2500 CFM



HUNTER DELUXE WINDOW FAN
Most Beautiful of All Fans
4250 CFM

Write, wire or phone for catalog, prices, and name of Hunter distributor near you

HUNTER FAN AND VENTILATING COMPANY

Exclusive Fan Makers Since 1886 • 392 South Front St., Memphis, Tenn.

READY NOW

"PLUG-IN" STRIP WITH GROUNDING FACILITIES

Type CF2-G Grounding "Plug-In" Strip permits use of grounded or ungrounded devices *from the same outlet* . . . Will take either the new *Series* 5200 3-blade grounding plug or the standard 2-blade ungrounded plug.

STEEL FOR PERMANENCE
GROUNDED FOR SAFETY

Listed by Underwriters' Laboratories, Inc.

UNLIMITED APPLICATIONS . . . in FACTORIES . . . OFFICES . . . STORES . . . HOMES . . . HOTELS . . . APARTMENTS . . . SCHOOLS . . . HOSPITALS . . . INSTITUTIONS . . . "Plug-In" Strip is a professional material. Consult your electrical contractor for installation. *Grounding* "Plug-In" Strip meets contemplated revisions in the National Electrical Code covering grounded electrical systems. Type CF2-G Grounding "Plug-In" Strip is the quickest and easiest method of meeting grounding requirements. Write for our *free* folder "Grounding Plug-In Strip."

Everything in wiring points to NE

National Electric
PRODUCTS CORPORATION
1307 CHAMBER OF COMMERCE BUILDING, PITTSBURGH 19, PENNSYLVANIA

FOR SAFETY'S SAKE . . . USE CONDUIT *(Full Weight Rigid Steel)*

THE YOUNGSTOWN SHEET AND TUBE COMPANY General Offices — Youngstown 1, Ohio

Manufacturers of Carbon, Alloy and Yoloy Steel Export Office - 500 Fifth Avenue, New York

CONDUIT - HOT AND COLD FINISHED CARBON AND ALLOY BARS - PIPE AND TUBULAR PRODUCTS - WIRE - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - RODS - SHEETS - PLATES - RAILROAD TRACK SPIKES.

ELECTRICAL SOUTH is published monthly by W. R. S. Smith Publishing Co., Marietta, Ga., and Atlanta, Ga., U. S. A. Subscription rates, United States and Possessions, $1.00 for one year; Canada and Foreign Countries, $10.00 per year. Entered as second class matter at the Post Office, Marietta, Ga., under Act of March 3, 1879.

Volume 30 Number 3

General's *New* Front-Operated Toggle Plug Fuse Safety Switch

now available . . . with or without dead front plate

CAT. No. 633 NP

The Switch is to General *because* General *makes a better switch*

Years of engineering research and careful testing have resulted in outstanding product improvements throughout our entire line. For example, the new Toggle Switch line contains many distinctive features which will be apparent to you immediately upon examination.

Other new and improved products now in production are the triple pullout—new raintight equipment—improved main and range combinations—and 100 Amp. fusible service equipment . . . all items finished in machine gray baked enamel and sold everywhere exclusively through wholesalers.

Write for our latest catalog, No. 4809—and supplement No. 4911.

FEATURES

- *Snap-action; toggle actuated*
- *Dependable, full-floating contacts*
- *All parts visible and easily accessible*
- *Laminated arc shields—easily removable*
- *Solderless pressure wire connectors on line side*
- *Can be locked or sealed with padlock in either ON or OFF position*
- *Ample wiring room and abundant knockouts*

Available for immediate delivery
Described in detail in current
Catalog 4809, page 12

Catalog Number	Poles or Wires	Blades or Contacts	Plug Fuses	Neutral
*632NP	2	1	1	Solid
*632P	2	2	2	None
*633NP	3	2	2	Solid

* All available with dead front shields
add suffix A, as: 632NPA

General Switch Corp.
49 Roebling Street Brooklyn 11, N. Y.

One of the largest Manufacturers of:

SERVICE EQUIPMENT . . .
Pullout, Front Operated Toggle and Side Operated types. Indoor—surface or flush, and Outdoor.

SAFETY SWITCHES . . .
30 through 1200 Amp., 250V and 600V Type A, C and D. Indoor and outdoor. HP rated.

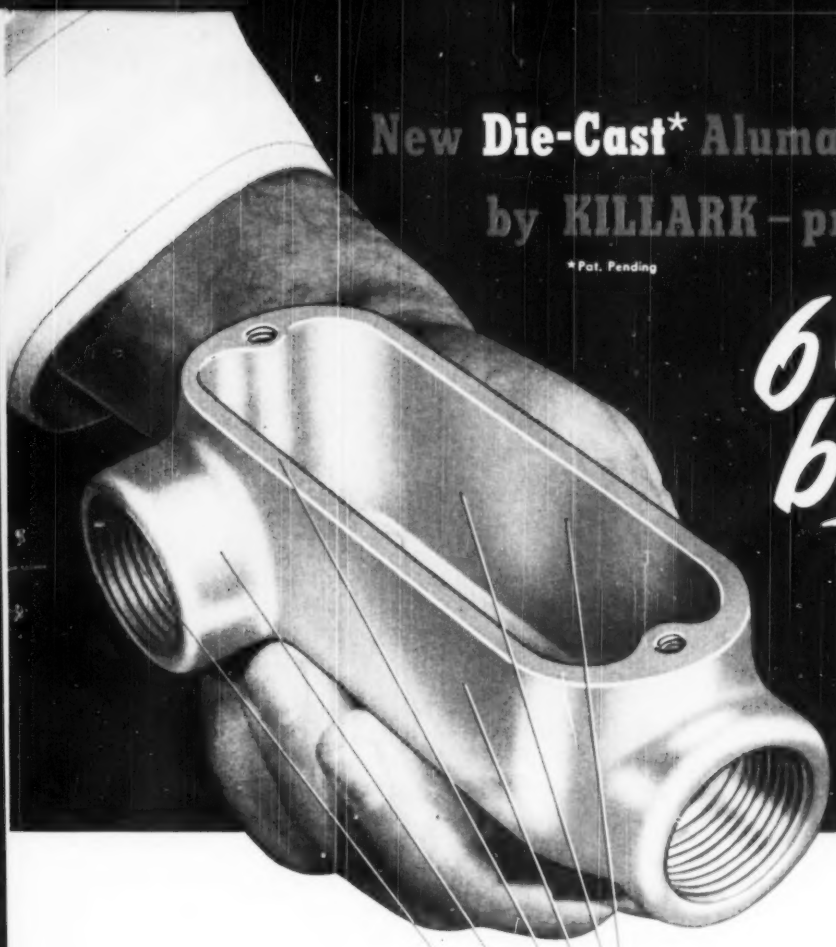
ELECTRICAL DISTRIBUTION EQUIPMENT

SALES OFFICES IN EVERY MAJOR CITY

New **Die-Cast*** Alumalloy Fittings by KILLARK – prove . . .

*Pat. Pending

6 ways better



Now **for the first time** — the superiority of aluminum is available for you in a DIE-CAST* fitting. Seven years of Killark metallurgical research and on-the-job testing prove conclusively that these modern Killark fittings (die-cast under ten thousand pounds pressure) give you advantages in performance . . . dependability . . . and sales that have never been offered before!

- LIGHTER IN WEIGHT! Only 40% as heavy as iron
- STRONG AND MALLEABLE Alloys combined with aluminum give this superior metal. Alumalloy is not brittle — will withstand shock and strain far beyond actual practice on the job.
- NON-CORROSIBLE Rust proof and highly resistant to all corrosion
- UNMATCHED UNIFORMITY Because these fittings are die-cast under tremendous pressure — all fittings are identical
- SMOOTH FINISH A finish like satin — no sand marks or burrs, gives protection to wire insulation and easier handling
- CLEAN CUT THREADS Because of die-casting under 10,000 lb. pressure, Alumalloy becomes perfectly uniform and takes a clean cut thread

PROVE IT TO YOURSELF . . . FREE! Send for one of these revolutionary new fittings . . . test it yourself, and you'll see why it is **6 ways better than any fitting you've ever handled.**

K KILLARK ST. LOUIS

Killark

ELECTRIC MANUFACTURING COMPANY

Vandeventer and Easton Aves. St. Louis 13, Missouri

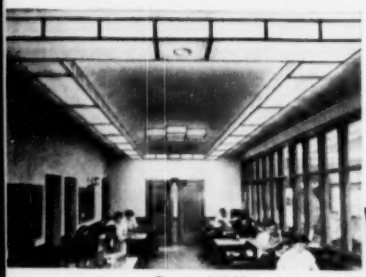
SALES OFFICES and WAREHOUSE STOCKS

BOSTON	156 Purchase St	PITTSBURGH	298 Duquesne Way	SAN FRANCISCO	1123 Harrison Street
SYRACUSE	216 Burnet Ave.	CHICAGO	564 West Adam Street	LOS ANGELES	412 Seaton Street
PHILADELPHIA	121-123 Market St	DENVER	2134 Curtis Street	DETROIT	8319 Mack Ave.
ATLANTA	69 Mills Street, N. W.	SEATTLE	4130 First Avenue South	DALLAS	1901 Griffin Street

SALES OFFICES

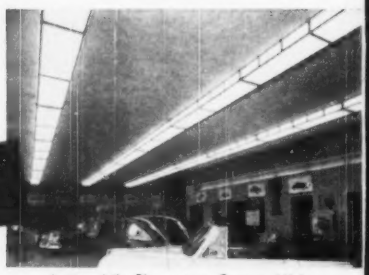
COLUMBUS	2620 Walsford Road	MINNEAPOLIS	924 Andrus Bldg.	NEW YORK	30 Irving Place
CINCINNATI	49 Central Avenue	KANSAS CITY, MO.	614 West 26th Street	BALTIMORE	401 Natl. Marine Bank Bldg.

YOU SELL MODULE INSTALLATIONS



General Office. *Chicago, Ill.*

Bank. *Wheeling, W. Va.*

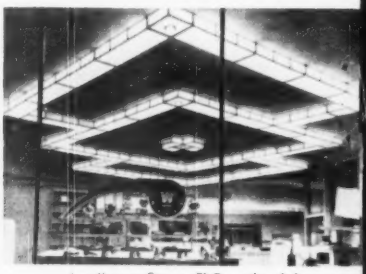


Automobile Showroom. *Ecorse, Mich.*

LIKE THESE

Display Room. *Dallas, Texas*

Utility Showroom. *Trenton, Mich.*



Appliance Store. *El Dorado, Ark.*

WHEN YOU TELL THIS SELLING STORY

module is custom-fitting

Here's the *new* lighting that *fits* any commercial interior to a "T". Four basic MODULE units are the "building blocks" or "dominoes" of light. They fit together easily, economically, to form over 50,000 different patterns. They custom-fit any room shape or size. They put the light *exactly* where it's needed. MODULE is the *only* lighting that *custom-fits* with standard low-cost units.

module delivers 20% MORE LIGHT

Proved in actual use—MODULE delivers 20% EXTRA light per unit! Yes—the MODULE translucent plastic molded louver passes 20% MORE LIGHT. This means more light per dollar—fewer fixtures required to meet footcandle specifications. This means *more* light, *better* light at no more than the cost of ordinary fixtures.

module is newest, finest

And there's nothing in lighting that will *stay* newer and finer than MODULE. Yes—a MODULE installation remains modern for years, because: it custom-fits and "grows" with every lighting need; it delivers *more* light; its appearance has an undated "always contemporary" look. No ordinary fixtures can match these MODULE advantages.

module installations are never obsolete

No MODULE lighting system is ever obsolete. Here's why: As lighting needs change, more units can be added at any time, at any point in the system—without installing a single new electric outlet box because MODULE units connect together electrically and mechanically. MODULE lighting is never "locked-in"—the "building blocks" of light simply slip into place easily and economically exactly as required.

TELL THIS STORY—IT SELLS

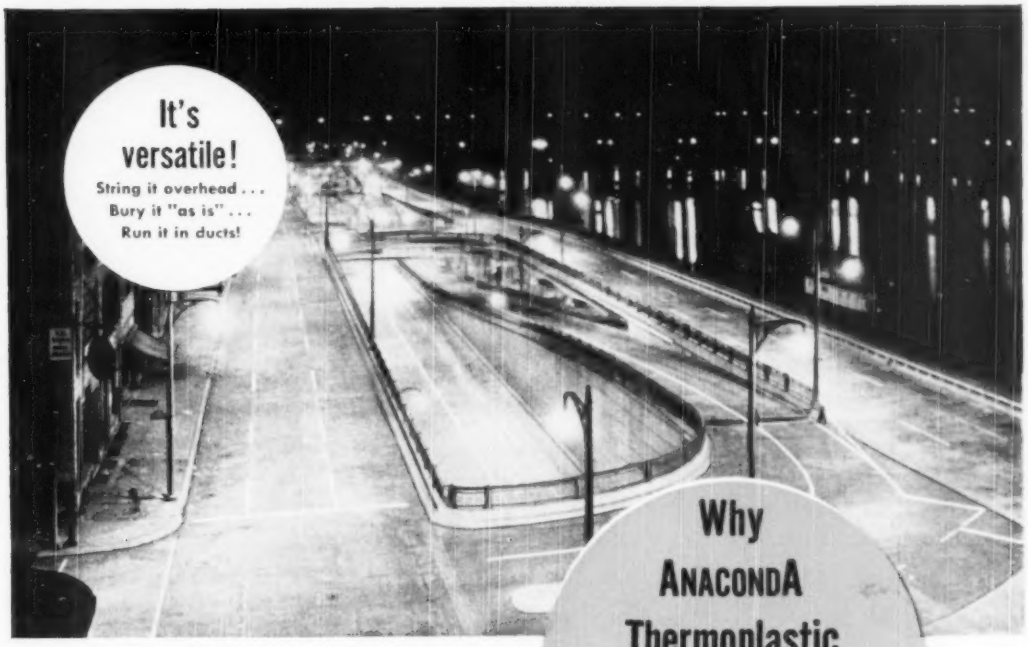
MITCHELL **module**

REG. U.S. PAT. OFFICE

IF YOU HAVEN'T ALL THE **module** FACTS, WRITE TODAY

MITCHELL MANUFACTURING COMPANY

2525 N. Clybourn Avenue • Chicago 14, Illinois



Why ANACONDA Thermoplastic Street Lighting Cable is Safer

For public safety (and good will) street lighting service must not fail. ANACONDA Thermoplastic Street Lighting Cable is:

Safer because it is stubbornly resistant to sun and weather when overhead . . .

Safer because it is ruggedly resistant to earth acids and alkalies when buried . . .

Safer because its tough hide resists abrasion and cutting when pulled into duct . . .

Safer because it is moisture-resistant and flame-retardant.

ANACONDA Thermoplastic Street Lighting Cable is available insulated with either Densheath* (vinyl resin) or polyethylene for 3,000 and 5,000 volts; with or without lead sheath.

Polyethylene may be jacketed with tough, mechanically-protective Densheath, or with flame-retardant, non-combustible ANACONDA Type FR** Compound. The latter has superior insulating properties. For complete information get in touch with your nearest Anaconda Sales Office or Anaconda distributor. Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

*Reg. U. S. Pat. Off.
**Trademark

The right cable for the job ANACONDA WIRE AND CABLE

When fluorescent lighting fixtures are equipped with Certified Ballasts, you and your customers are protected

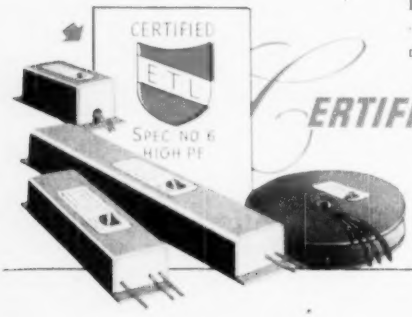
CERTIFIED FLUOROTHER MANUFACTURERS, REM STANDARDS INSTITUTE and CERTIFIED LAMP MAKERS have solved their ballast problems by writing CERTIFIED BALLASTS into their specifications.

YES, "CERTIFIED" on a ballast means that this ballast has been built to exacting specifications set up by lighting experts . . . that it has been *tested, checked* and *CERTIFIED* by impartial Electrical Testing Laboratories, Inc.

"Certified" further means ballasts that are *quiet* in operation . . . protected against overheating . . . and long lived.

Always specify CERTIFIED BALLASTS . . . and be sure!

CERTIFIED BALLASTS are being made by ten leading ballast manufacturers. Participation in the certification program is open to any manufacturer wishing to qualify.



CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting

2116 KEITH BLDG., CLEVELAND 15, OHIO

Who are You?
Contractor?
Architect?
Dealer?
Wholesaler?
Whatever your particular interest in steel switch and outlet boxes, you know the *Quality* that makes Raco products unfailingly dependable, the *Completeness* of the Raco line for all commercial and home wiring jobs. Add to these the *Approval* by Underwriters' Laboratories, Inc. and you have all the assurance you need that Raco is right. All of this is the result of policy—a disciplined resolve to make Raco products the top line in the market.
You can always rely on RACO
RACO
ALL-STEEL EQUIPMENT Inc.—800 Kensington Ave., Aurora, Illinois
"A BOX FOR EVERY NEED"

USERS SAVE 2/3

with

Westinghouse *Fluorescent Lamps*

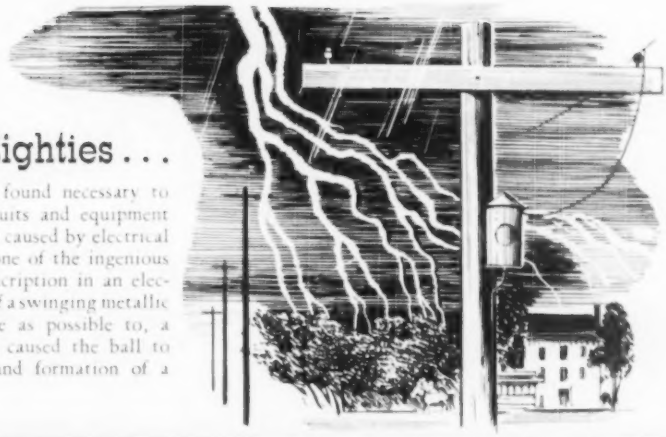
the lamps that last 3 times as long... yet cost no more!

Yes, one Westinghouse fluorescent lamp now lasts as long as 3. In average store installations, for example, it lasts 2½ years; in average one-shift offices or factories, 3 years. You actually buy lamps only ⅓ as often! You also save on *the time spent replacing burned-out lamps.* So, start getting these economies now. Next time specify Westinghouse fluorescent lamps. Lamp Division, Westinghouse Electric Corp., Bloomfield, N. J.

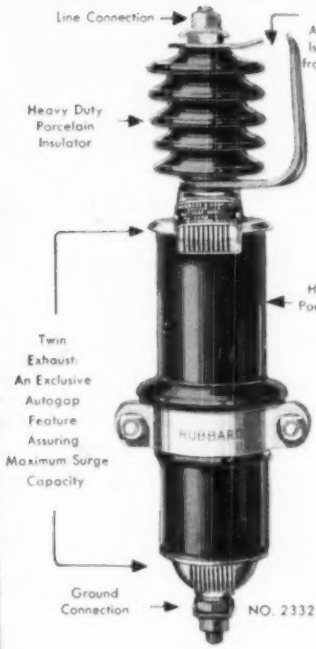
YOU CAN BE SURE...IF IT'S Westinghouse

In the Good Old Eighties . . .

Early in the electrical age it was found necessary to find some means of protecting circuits and equipment against the disturbances and damage caused by electrical storms. The "Razzle Dazzle" was one of the ingenious devices used. "It consists," the description in an electrical publication of that day says, "of a swinging metallic ball suspended above, and as close as possible to, a ground plate or table." Lightning caused the ball to swing, thus preventing a fusing and formation of a permanent ground.



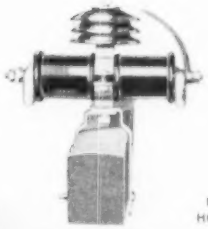
TODAY - The New HUBBARD VERTICAL AUTOGAP



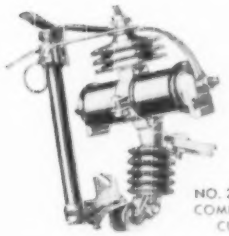
The new Hubbard Vertical Autogap possesses the same principles of design as the Hubbard Autogap Lightning Arrester for horizontal mounting, and offers an optional choice where a vertical mounting is desirable. All Hubbard Autogaps act on the expulsion principle. The follow arc is extinguished before it reaches the first current zero. A bracket is included, for mounting on pole, crossarm or transformer as desired.

Autogaps are also available in cutout combinations. Hundreds of thousands of Autogaps have proven their efficiency over an eleven year period, without a single failure resulting from operating conditions.

Write for complete details and specifications.



NO. 2302 HORIZONTAL STYLE



NO. 2315 COMBINATION CUTOUT

HANG THE LOAD ON HUBBARD HARDWARE

HUBBARD AND COMPANY

ESTABLISHED 1843

PITTSBURGH CHICAGO OAKLAND, CALIF.

What is the Difference?
These boxes are of different makes, yet they are as much alike as two peas in a pod. It is doubtful if an experienced electrical craftsman or even the makers of the boxes could identify them.
So it is with certain other common types of electrical boxes and conduit fittings.
But a BIG difference will be found when entire LINES of boxes and fittings are compared.
It will be found that Steel City's line is not limited to easy to make items, items in greatest demand, or which show a better profit. It is a COMPLETE line of boxes and fittings, constantly kept up to date with wiring requirements.
In switch boxes, outlet boxes and covers and conduit fittings.
Steel City Leads
In Meeting Contractors' Needs
STEEL CITY ELECTRIC COMPANY
1207 COLUMBUS AVENUE, PITTSBURGH, (12) PENNA.

DEPENDABLE ALWAYS!!

Whichever the season, there's seldom any worry about overhead power lines, or customer relations either, when Simplex - ANHYDREX Self - Supporting Aerial Cables are on the job. Anhydrex insulated and neoprene jacketed, they assure trouble-free service year in and year out in any location, and their modern construction does away with the need for excessive tree-trimming.

Anhydrex has excellent electrical properties and is the most stable of all rubber insulations when exposed to water and moisture. The tough neoprene jacket withstands abrasion caused by swaying limbs and chafing against poles and it provides effective protection against fungus, heat, sunlight and weathering.

ANHYDREX Self-Supporting Aerial Cables require little or no tree trimming for installation. The circuit is entirely insulated, and the copper bindings that secure the conductors to the messenger provide a grounded path on the outside. During storms the strong supporting messenger retards line breaks due to falling limbs and ice-loading. Even when poles fall, the well-protected cables will usually continue to operate efficiently.

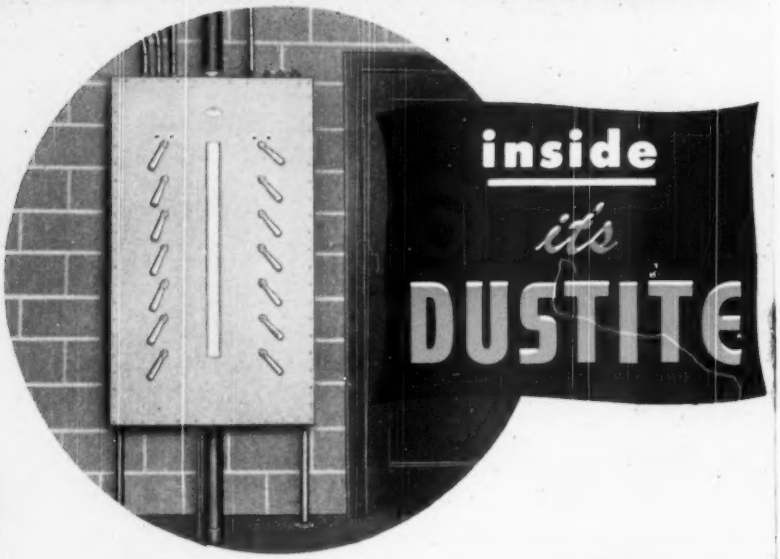
ANHYDREX Self-Supporting Aerial Cables are delivered ready for installation. They can be clamped to poles already standing. Crossarms and insulators are unnecessary. Few workmen and comparatively little time are needed for the job. But these are but a few of the advantages they provide. For the complete story, simply fill in and return the coupon below.

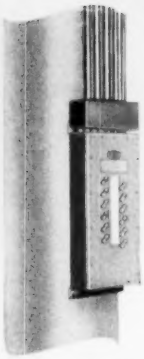
SIMPLEX WIRES & CABLES

SIMPLEX WIRE & CABLE CO.
79 Sidney Street
CAMBRIDGE 39, MASS.

SIMPLEX WIRE & CABLE CO.
79 SIDNEY ST. CAMBRIDGE 39, MASS.
GENTLEMEN: PLEASE SEND A COPY OF CATALOG 1006 TO
NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

No hazard here . . . *because*





Typical lighting panelboard illustrated above; typical power panelboard in circle.

Designed for use where carbon black, coal or coke dust, grain dust and other dust conditions are hazards.

Approved by Underwriters' Laboratories, Inc., for Class II, Groups E, F & G Hazardous Locations.

FOR THOSE COMPANIES plagued with the hazards of volatile dust, the Frank Adam Electric Company has designed special light and power panelboards that provide *dust-free* performance, safety and dependability . . . regardless of the external dust condition . . . because ® DUSTITE PANELBOARDS remain dust-free *inside*.

These ® DUSTITE PANELBOARDS seal out the hazards of dust by means of dust-tight welded hubs for conduit outlets . . . welded box corners . . . external mounting brackets welded to back of cabinet . . . and a solid steel front plate with gasket protection all around.

The circuits are externally operated by a dust-tight mechanism of ® design. The handles operate through dust-tight bushings and engage the regular handles on the circuit breakers *inside* the cabinet. ON and OFF positions are indicated on the front of the cabinet.

And there's no reason to get inside the cabinet because all ® DUSTITE PANELBOARDS are of the automatic circuit breaker type, which provide protection without need for replacement of any parts.

Capacities 15 to 600 amps., 250 volts AC or DC, and 600 volts AC, main lugs only, or main circuit breakers.

Avoid the hazards of dust in your light and power panelboards by making them ® DUSTITE.

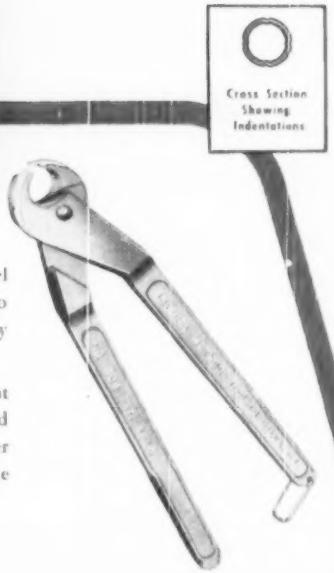
Inquiries solicited . . . just address your nearest ® Representative (he's listed in Sweet's) or write for Bulletin 302.

Frank Adam Electric Co.

ST. LOUIS 13, MISSOURI

Makers of **BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER**

You can't buy Better Fittings or ones that cost less to use



Cross Section Showing Indentations

Quicker to use and neater in appearance, Briegel All-Steel Indenter Fittings not only make stronger connections but also make each job more profitable to the contractor and satisfactory to his customers.

Two Easy Squeezes and they're set to stay. It is only natural that the Briegel All-Steel Indenter Fittings are the most widely used E.M.T. connectors and couplings. Contractors the world over recognize their cost cutting qualities and the fact that they make each wiring job neater, stronger and better.

All B-M Fittings Carry the Underwriters Seal of Approval

BRIEGEL METHOD TOOL CO.

GALVA, • ILLINOIS

DISTRIBUTED BY

The M. B. Austin Co., Northbrook, Ill.; Clayton Mark & Co., Evanston, Ill.; Clifton Conduit Co., Jersey City, N. J.; General Electric Co., Bridgeport, Conn.; The Steelduct Co., Youngstown, Ohio; Enameled Metals, Pittsburgh, Penn.; Kondu Mfg. Co., Ltd., Preston, Ont.

chest x-rays for my employees? ..ridiculous

Not so ridiculous, mister! Chest X-rays may show that people who feel in the "pink" are really suffering from active tuberculosis. In its early stages TB frequently has no symptoms at all.

It now leads all other diseases as the cause of death between the ages of 15 and 34. Tuberculosis kills almost 50,000 Americans every year.

This is shameful . . . shameful because it is a disease that can be wiped out if we will all take the first simple step required to wipe it out . . . have a periodic chest X-ray.

Tuberculosis costs the United States 1,000,000 working years annually and, for TB Hospital maintenance alone, more than $1,000,000 in taxes. How could you make a better investment than to lend a hand in helping to rid the country of this scourge!

Post this page on your bulletin board. Let your employees know that the greatest safeguard against TB is excellent health. Active disease does not occur so long as the body's resistance can successfully fight the TB germ.

Let them know that TB is contagious. It is spread through sneezing, coughing and personal contacts.

Let them know that TB is curable, and that the sooner it is detected, the quicker the cure.

Let them know, above all else, they will be doing themselves a favor, their families and community by having their chests X-rayed at least once a year . . . starting TODAY!

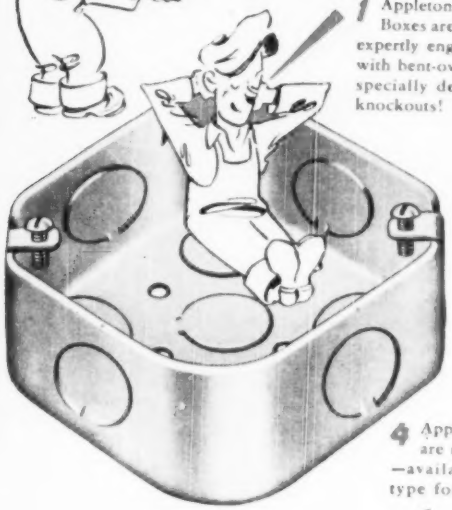
Your cooperation can help save lives . . . maybe your own.

the Advertising Council, inc.

A non-profit organization representing all phases of advertising, dedicated to the use of advertising in public service.

25 West 45th St., New York 19, N. Y.

6 REASONS WHY ELECTRICIANS PREFER APPLETON FITTINGS!



1 Appleton Outlet Boxes are roomy, expertly engineered with bent-over-ears, specially designed knockouts!

2 Appleton Unilets are made of Malleable Iron... Lighter, yet tougher!

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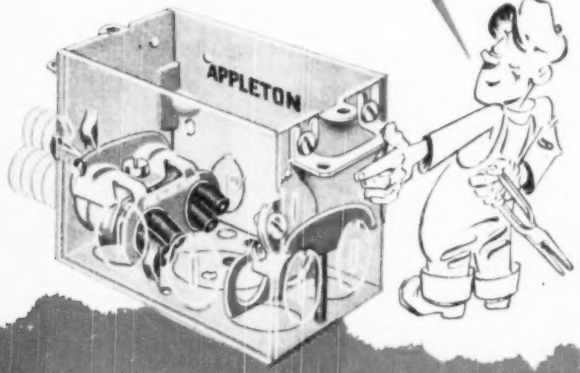

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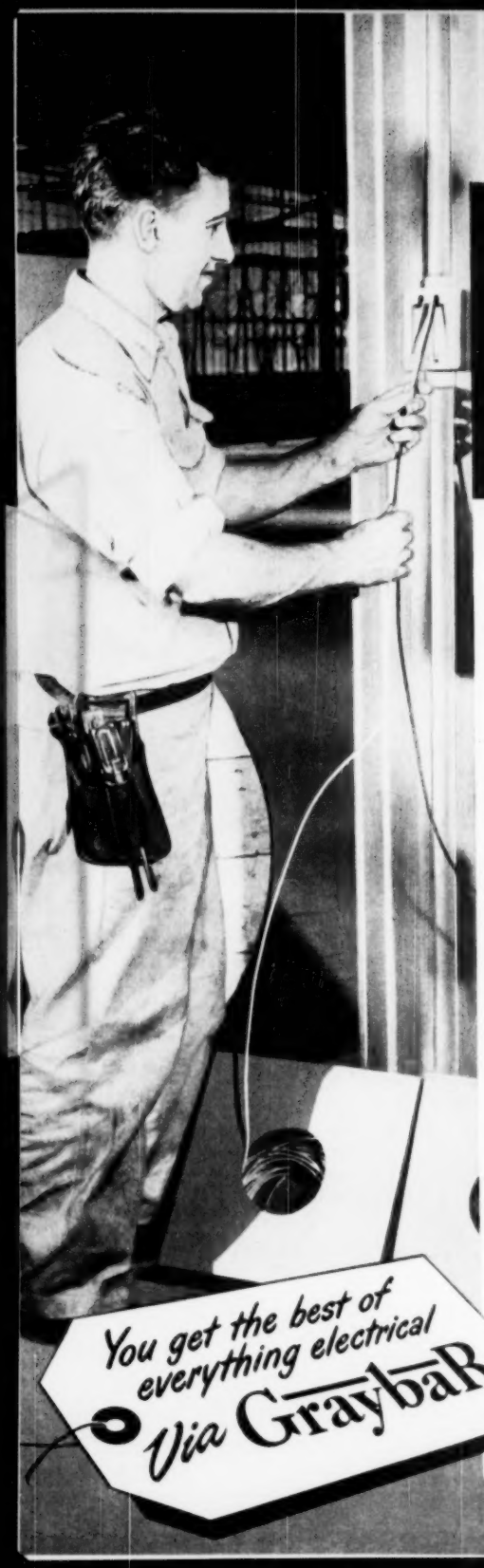

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Labor-Saving

These 6-in.-by-6-in. wireways proved to be a neat solution to the problem of carrying the dozens of circuits necessary for a carburizing furnace. The electrician shows how wires can be pulled out for maintenance or repair.

I-

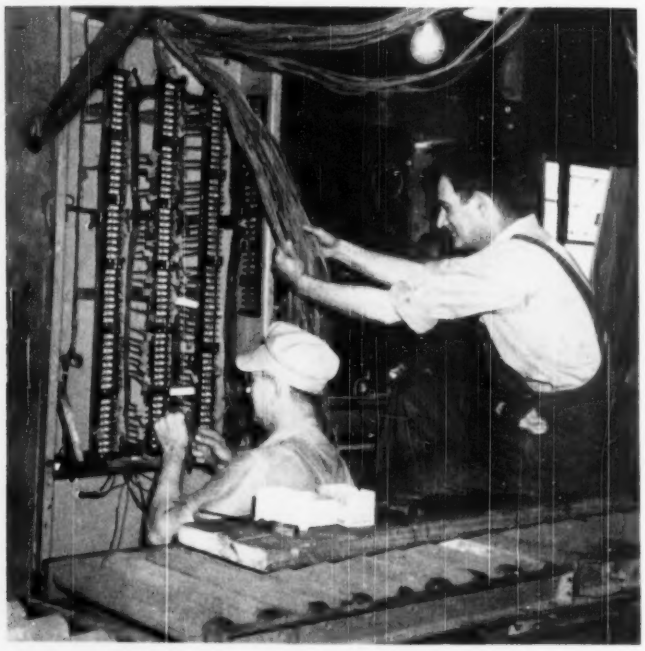
When you can do a specific job better and at a saving of a thousand dollars in both time involved and material used, we think it a worthwhile accomplishment.

Facts such as this are bound to travel and play a big part in helping us to get the next job.

The job I am referring to was quite unusual. We had never encountered one just like it before. A firm for whom we have done work before had installed a Holcroft Carburizing Furnace. That is, it was set, ready to be wired.

Each one of these furnaces are custom-made for each installation. Consequently, no two can be wired in exactly the same way. This complicates what would even ordinarily be a complex job. Hence, a complete wiring design had to be worked out on the job. Much head scratching ensued. Right from the start, we ran into complications. Thinking along conventional lines, we visualized a bank of some 4,500 feet of 1¼-inch conduit — and no place for the bank!

by E. R. Stewart
Vice-President
Britain Electric Company,
Houston, Texas



Connecting the control panel for the carburizing furnace. Some 60,000 feet of Type SNA wire was used on this installation.

Furthermore, such a bank of conduit would not be practical — looking ahead toward future maintenance. Finally, our superintendent on the job came up with the answer to the problem. It involved the use of 6-inch by 6-inch wireways popularly used for power and control distribution. We fashioned these four-foot lengths into 220 feet of raceway. Joints were mitred to make neat joints and corners. And, they afford easy access for maintenance.

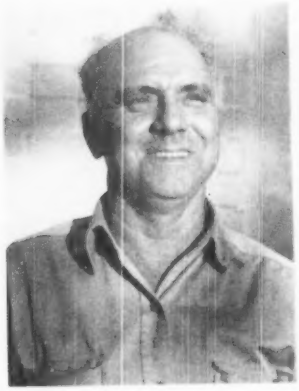
This, of course, resulted in a neat, practical installation. This can be visualized easily by referring to the accompanying photograph.

The panel is not as complicated as one might imagine. The vast number of push buttons, stations, solenoids, limit switches, motors, automatic valves, and recording instruments are all conveniently placed and are readily accessible for maintenance and repair.

Type SNA wire was used on this job. This wire will hold up well un-

(Continued on page 72)

Methods -- *Two Examples*



by W. S. Hess
Job Superintendent
Pfeiffer Electric Company
Houston, Texas

2-

We are now in the last stages of completing the largest job of its kind in the world—the new National Biscuit Company Plant, Houston, Texas. This bakery has a total floor space of over 14 acres. 2,600 fluorescent light fixtures were installed . . . this will give you some idea of the plant's size!

In a job of this type sanitation is a prime requisite. Therefore, the finished job must be neat . . . there should be no unsightly projections which would act as dust collectors that a movement of air would circulate around the plant.

There is one important factor concerning installations of this type few electrical contractors take into consideration. Modern plants are used today as part of the firm's merchandising program. The public is cordially invited to tour and inspect the plant. And the plant must make a favorable impression on the firm's potential customers.

Installations, then, are not strictly functional. The modern installation has a dual duty to perform. This makes the appearance of the completed job take on a new importance.

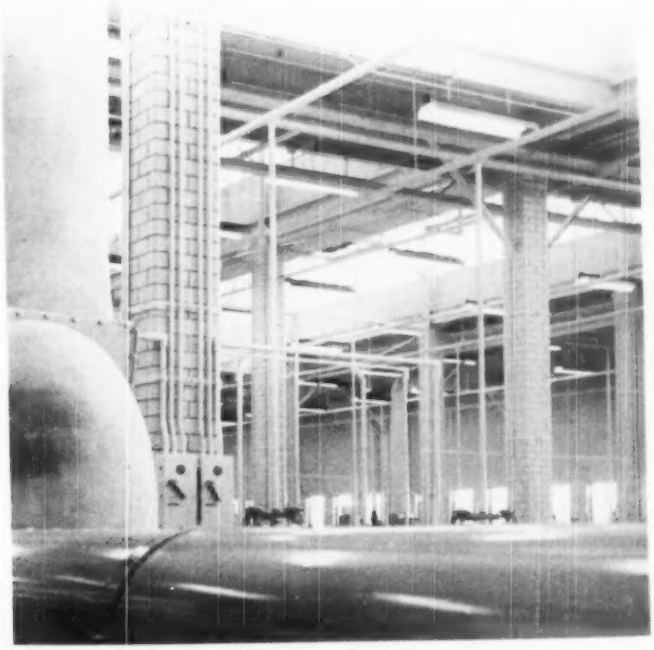
Because of the layout of equipment, it would have been simpler to have tapped off at staggered intervals directly above machines . . . and come down with a length of conduit. But the finished job would have been most unattractive. The plant would have been a tangled mass of conduit.

To make the job look professional, we tapped off close to, and brought the conduit down, the nearest building support column as low as possible and branched off from there. Coming down the post gave us still another advantage; we used bands around the posts and the conduit was fastened to them. This made for a rigid and permanent job. We can count on them remaining in place as long as the building stands.

Miles and miles of conduit were used on this job. To give a rough idea 300,000 feet of type RH Number 12 wire was used along with 200,

(Continued on page 22)

This portable, easy to move, Hi-Lift saved many man hours on this installation in the new plant of the National Biscuit Co., in Houston, Texas. For such high ceiling fixture work it offers many advantages over other methods.



Another labor-saving device used advantageously on this installation was the stud welding method of hanging conduit.

Notes on Lighting

Neighborhood Store Stands Out

A FEW MONTHS ago Sandoz Pharmacy, 8521 Humble Road, Houston, Texas, was another small, unpretentious drug store operating in the sprawling Northern suburbs of Houston. Today, it has taken its place among the city's largest and finest pharmacies—definitely a "Main Street" business located in the country, more than 100 blocks from the heart of downtown Houston.

All this rejuvenation came about when Harold L. Sandoz, owner, decided last September to rebuild. He picked up his frame building, shoved it aside and now resting on the site of the old building is today's super version of Sandoz Pharmacy.

Helping in a big way to make the present structure one of the most modern in the Southwest is the lighting! When Mr. Sandoz first announced his intentions of rebuilding he gave very little thought to lighting. He initially planned on installing only 12 unshielded fluorescent fixtures of an unspecified type and these were supposed to furnish interior lighting for an area of 3,000 square feet.

Before final blueprints were drawn the pharmacist was contacted by Bill Attaway, commercial representative for Houston Lighting and Power Company. The latter related the factual story of how proper lighting increases business and profits. After stating his selling story, Mr. Attaway drew up a lighting layout for the new store and presented it to the owner.

Mr. Sandoz immediately saw the "light," changed his construction plans to include the layout, and the new Sandoz Pharmacy boasts a lighting job second to none. The installation consists of four continuous rows of 200 milliampere shielded fixtures, supplemented by a continuous strip of cove lighting running above the length of display cabinets in the prescription department. The combined lighting washes the over-all interior with 80 foot-candles of light. The mounting height of the fixtures is 11 feet, and the continuous strips are spaced 10 feet apart.

Outside illumination of the new store at night is made up of fluorescent cove lighting stripped across the front of the building and running approximately 15 feet around the North side of the structure. Due to this type lighting the pharmacy stands out like a beacon many blocks away.

Lighting in the present pharmacy is a far cry from that used in the old store. In the latter the lighting consisted of four, two-40-watt fluorescent strips, which gave off so little light sight meters would not register a foot-candle. Two single 40-watt fluorescent strips were the extent of exterior lighting.

Mann Electric Company, of Houston, was the electrical contractor for the new job.

Four continuous rows of 200-milliampere shielded fixtures, supplemented by a continuous strip of cove lighting around the length of display cabinets, give the interior of this Houston pharmacy 80 foot-candles.

The exterior lighting of Sandoz Pharmacy, Houston, Texas, has proved to be a real "traffic stopper." Fluorescent cove lamps provide a band of light all around the front of this neighborhood store.

Lighting a Specialty Shop

A LARGE SPECIALTY shop located in Rome, Georgia, can rightly claim that it sets "a shining example!" The remodeling program recently completed by Esserman's included an outstanding lighting installation.

"In the *heart* of Rome since 1896," is the slogan of Esserman's. The shop is indeed in the center of town, and more than half a century of popularity is proof of good will. In addition to its other launch, Esserman's can now stake a claim as one of Georgia's most beautiful stores.

Esserman's planned carefully for the pleasure and convenience of its customers. The color combinations of the interior are smart and eye-pleasing examples of harmony and contrasts. Displays of merchandise stop and charm the shopper. There is the ideal climate of air conditioning. A public address system, with speakers blended into the decorations, brings soft music and an occasional announcement.

The lighting was planned by lighting engineers of the Georgia Power Company, in cooperation with the architects, Poundstone, Godwin and Ayers. Shielded and louvered Wakefield "Grenadier" fluorescent fixtures furnish general illumination of about 50 foot-candles, and spotlights are used lavishly to emphasize displays.

Design for the Best In Classrooms

by George P. Wakefield
The F. W. Wakefield Brass Co., Vermilion, Ohio

RECENTLY a forty-eight page booklet, the Co-ordinated Classroom, by Darell Boyd Harmon, devoted to classroom lighting, seating, and decoration was distributed to some 76,000 school authorities and architects. It presented principles and methods of providing an ideal environment for students to grow, physically and educationally. The reaction from one eminent lighting engineer to the detailed presentation was "why plan for such perfection?"

It seems to me that there is a sound reason why 100% perfection should be planned into **all** schools. The reason is while a building is planned and constructed there is bound to be a dilution from perfection to such an extent that by the time the classroom is occupied, compromises with finances, materials, customs, and prejudices will automatically eliminate at least 25% of the most desirable qualities of such a classroom. In fact, policing the original specifications becomes a real chore, due to the many persons and many factors involved in planning and constructing a public building.

I have had a recent opportunity to observe this dilution at work. This was in an addition to the Vermilion, Ohio, public school where, in spite of two members of our company represented on the school board, one as president, we almost lost control of daylight because the architect desired to continue the same type of fenestration as in the old section in order to assure uniformity of design with the main building of 1929 vintage. He readily agreed to glass block with a vision strip after he fully appreciated what we were attempting to do.

When the plans were finished, a large roll of blueprints was dumped on the board's table for approval at the regular two hour session. As conscientious as a school board member may be, it is impossible to check all details on such a large project in one board session. Nevertheless, the plans were approved, the building started, and more dilution started too.

(*Continued on page 70*)

Continuous lines of fluorescent fixtures form the basis for the well-designed lighting system in the remodeled specialty store of Esserman's, in Rome, Ga. Special features include generous use of incandescent spots to emphasize displays and arrangement of the lines of light into patterns that attract and guide traffic through the store.

Instrument Use in Maintenance

by R. J. Teetsell
Instrument Sales Engineer
Westinghouse Electric Corporation
Pittsburgh, Pennsylvania

THE NEED for intelligent measurement of electrical quantities has never been as fully recognized as it is today. In industry, electrical measurement instruments interpret for the operator and the maintenance man electrical quantities under the widest variety of operating conditions.

Power consumption and speed of various units must be seen at a glance by the operator and the maintenance man if they are to obtain the most from any motorized production. Any instrumentation that requires the operator to leave his working position to observe the condition of operation, is bound to be neglected and in the end to defeat to a large extent the purpose for which instrumentation was intended.

For adequate application, instruments must be located where they can be seen easily from the normal operating position; the current consumption, power, speed, and other intelligence must be under direct observation of the operator. (1) Figures 1, 2, and 3 illustrate well engineered, highly centralized control with instrumentation an integral part.

Demands for this type of visual control are on the increase. They are being met by equipment manufacturers by making provisions for mounting instruments permanently on or adjacent to the machine, to the switchboard, or to the control panel or by detachable type instruments. This is a direct result of the continual effort to reduce production costs, and to attain the most favorable ratio between production and maintenance costs. Instrumentation is an essential part of such a movement as it makes possible a reduction in standards for skilled operators and inspectors by removing to a considerable degree the human element variable from the operation.

It is readily recognized that the hard to get skilled operator and maintenance man can get by with little instrumentation, but with adequate instrumentation, the skilled can do a more efficient job while the semi-skilled can often perform the skilled job equally well. The overall result is improved quality, increased production, and lower maintenance costs.

Proper instrumentation not only serves as a guide to the operator for production purposes, it also tells him that the equipment is operating normally or abnormally, or whether the equipment should be inspected, and/or repaired by the maintenance crew at the next regular shutdown period. Even if the equipment is protected by overload devices, why wait

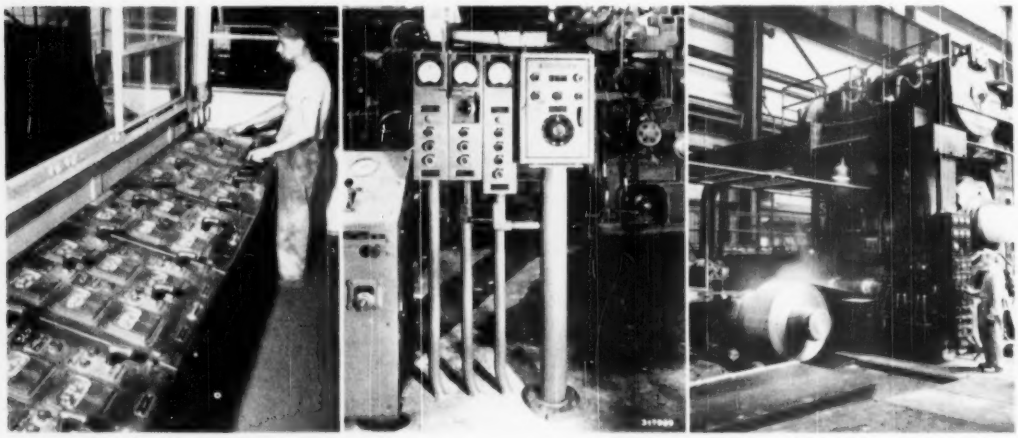


Figure 1 (Left) — Control desk for seven stand tandem roughing train rod mill showing operator's pulpit. Each stand driving motor is provided with an indicating ammeter, an indicating speed meter, and an indicating voltmeter to indicate booster volts. Figure 2 (Center) — Operator's control station (atop three small conduits) for the first and second press sections and the first dryer section of a sectional paper machine. These stations provide Start, Stop, Inch, and Progresive Slack-Take-Up, section motor load indication (Ammeters at top) and section draw adjustments as required for these particular stations. The operator's master control (atop large conduit) provides present speed control or manual control of paper machine speed and a master STOP for the entire machine. Figure 3 (Right) — Master control for 56-inch four stand tandem cold sheet mill and tension reel is at operator's right. Instruments indicate current for the four stand and tension reel motors; speed in feet-per-minute for the strip as it passes through the fourth stand; and, the voltage across the common bus.

until they have to operate when a wattmeter or an ammeter can tell in advance that for some unknown reason, the load has been increased or that one winding of a three-phase motor is open.

In the case of a machine tool, for example, instruments can tell at a glance whether or not the set-up man or the operator is using the machine at its maximum utility. A typical installation is shown in Fig. 4. No light cuts should be taken when deep cuts are indicated, and are well within the capacity of the machine. Instrumentation cuts down maintenance costs too, as their use precludes the damaging effects of constant overloads.

Going a step further toward maximum plant efficiency, it is very often practical to centralize instrumentation for the same reasons control and power centers are becoming so popular. This is particularly true when groups of motorized equipment do not require an operator and are virtually unattended. Instruments can be readily made a part of the control center. In fact, it is beginning to be a standard practice in some industries and, because of the inherent benefits, is certain to become a more universal requirement.

In large plants, even when instruments are provided for the operator, centralization of the instruments is also frequently provided. Instrumentation used in this manner—see Figures 5 and 6—can serve industry as the real gauge of productivity and a guide toward lower maintenance costs, if instrument readings are brought out to a central supervisory point, thus providing prompt and continuous information bearing on a section or plant production.

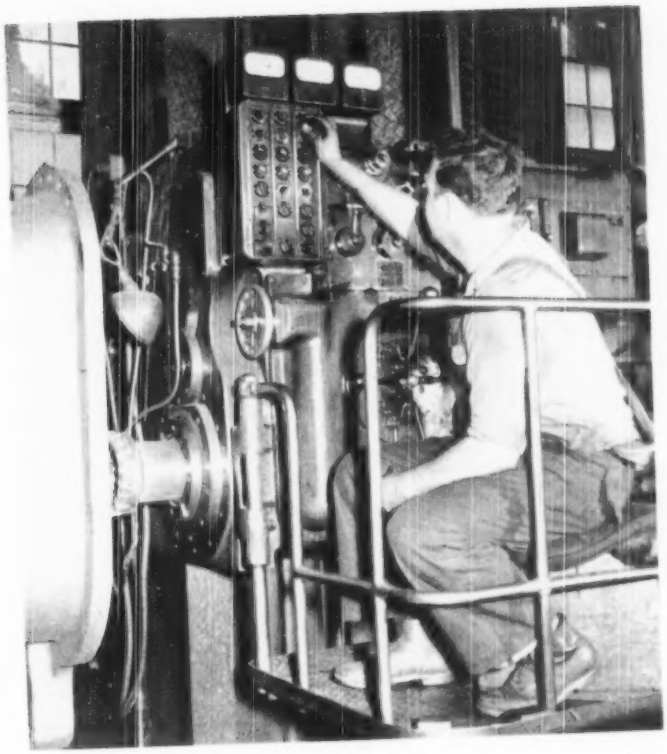


Figure 4 — Control panel for horizontal boring mill. Instruments above operator's hand show rpm of cutter shaft, rate of feed, and speed of the saddle at a glance.

Information from Instruments

This system in essence would be the equivalent of a utility load dispatcher set-up whereby a dispatcher is always kept informed by instruments or recording charts, of the loading and performance conditions at all points under his supervision, and jurisdiction. It can be an absolute index of: (1) intervals between work operations, (2) down time for repairs and adjustments, (3) check on machine operations, (4) a complete graphic picture of a day's work, and, (5) a graphic record of a first run operation or an operation that does not occur too frequently, which can be of value in the immediate or distant future. Some installations of this system are simple and justify immediate action. Others may be more complex, and necessarily would have to be done gradually, but they can be done. They should be done when the foregoing facts so dictate, for seldom is the initial cost of the protected equipment any measure of the true value of proper instrumentation.

And now let us look at some of the permanently mounted electrical instruments that are being used for this purpose.

1. Miniature panel type instrument—3½" and 4½", round or rectangular, flush or projection, are commonly used where space is at a premium, and where accuracy, not greater than 2 per cent is adequate.

2. Switchboard instruments — the 5" rectangular class has been the most popular, but the 4½" rectangular case, with the circular scale, is becoming increasingly more popular because of the additional scale length. The conventional 6" rectangular instrument has a 5" scale length compared to the 7" scale length of a circular scale instrument. Both of these instruments have a guaranteed accuracy of plus or minus 1 per cent and the 4½" circular scale type instrument has the additional advantage in that it takes no more panel space than the 4½" panel instruments.

3. Socket type instruments—these are equivalent in performance to the switchboard instrument and consist of a socket receptacle and plug-in instrument. They are used where there is not enough space for a panel near the machine.

The socket is available in two forms. One, a die cast socket with a conduit outlet that can be installed in a conduit line carrying the power wires to the machine. This provides a ready means for mounting the instrument, eliminating a special panel when instruments are not provided as an integral part of the machine, or when there is not enough space for a panel. The other type receptacle consists of a die cast ring designed to be mounted to the machine itself. A circular chart recorder is made that will plug in this socket if continuous records are required. Also, a watt-hour meter may be plugged into the same socket if an integrated value of

Figure 5 — Duplex meter and control board for a 42-inch five-stand tandem cold reduction tinplate mill. Indicating meters in the armature and field circuits of every main and auxiliary motor making up the mill drive give the attendant complete supervision of the performance, and enable quick location of any abnormal condition.

conditions than any other application.

7. Auxiliaries—when current measuring capacities are required beyond the self-contained limits of the instruments, shunts are used for direct current and transformers are used for alternating current. Generally speaking, the instruments described above are self-contained up to 750 volts and 50 amperes, either alternating or direct current, except the wattmeter, both single and polyphase, which has voltage ratings of 115, 230, and 575 volts, and current ratings up to and including 20 amperes. Wattmeters usually have 5 ampere coils and are used with current transformers. The dials are then marked according to the transformer ratios involved.

The selection of the correct instrument is based on the information required. Size depends on space limitations and the distance of the operator from the instrument. Switchboard indicating and recording instruments usually have an accuracy of plus or minus 1 per cent, panel instruments of plus or minus 2 per cent.

In the selection of the capacity of the instrument, it is well to keep the indication of the pointer between 1/2 and 2/3 scale for best accuracy and readability under normal conditions. Instruments can be calibrated in many arbitrary units; for example, frequently wattmeters and ammeters are calibrated in percentage or horsepower.

(*Continued on page 68*)

total watts over a period of time is desired. Also, a test jack can be provided to permit the use of portable test units whenever a more precise or detailed test is necessary.

4. Tachometers — a-c tachometer generators used with a rectifier type instrument for speed indications are becoming increasingly popular. They are replacing the d-c type tachometers because they give longer trouble-free service.

5. Strip chart recorders—these are available in alternating and direct current for watts, current, volts, etc., and are usually to be found in the centralized control section of the plant to give continuous records of performance of various plant feeders and specific machines.

6. Round chart type recorder—this type of instrument is generally used for voltage and current surveys, and is more often used to give general feeder

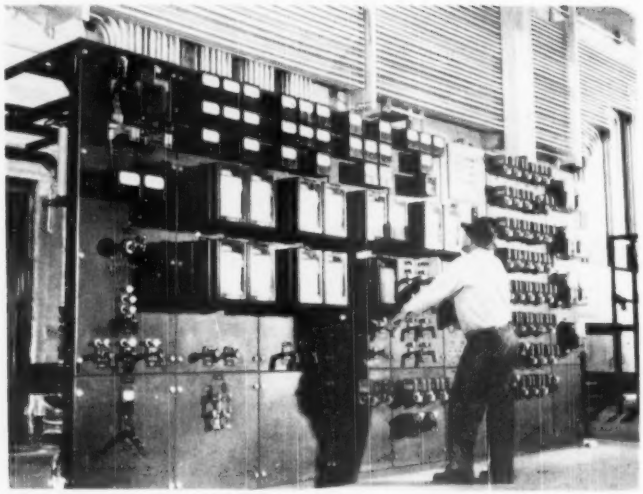


Figure 6 — Metering and master control panels for a 56-inch, four-stand tandem cold sheet mill. Graphic and indicating instruments are provided for current for the four stand and tension reel motors, for the steel strip speed through the four stands, for the voltage across the common bus, and for field currents.

This article is adapted from a talk made before the First Annual Plant Maintenance Show, held recently in Cleveland, Ohio.

Design Data for

Attic Ventilation

THE "CUSTOM TAILORED" nature of attic fan ventilation installations has resulted in a wide range of methods and ideas being incorporated into such jobs. The phenomenal growth of this type of ventilation, especially in the South and Southwest, has made it an important phase of the electrical contractor's operations.

Much of the uncertainty that entered into the design of attic ventilation installations has been removed through the development of an Attic Ventilation Code by the Engineering Committee of the Propeller Fan Manufacturers' Association. This Code sets forth the basic requirements of satisfactory attic ventilation and should be of inestimable value to the dealer or contractor engaging in this type of business for the first time as well as the more experienced in this field who wishes to check his operations.

The Code is divided into eleven sections. The following excerpts are copyrighted by the Propeller Fan Manufacturers' Association:

1. Georgraphical Variations in House Structure

Wide differences in the types of houses in Northern and Southern climates must be noted in considering attic ventilation installations.

The majority of dwellings in Northern climates have either open attic spaces or flat roofs with no attic space.

In houses with open attics, which are floored, the fan may discharge through an existing window or through an opening provided for the purpose either in an end wall or in a dormer in the sloping part of the roof. In either case the air is discharged directly to the outside, the attic acting as a plenum chamber. The fan should be protected from the weather by louvers or a rain hood.

In houses with flat roofs, it is necessary to provide a penthouse or cupola connected directly to the finished ceiling opening by an air shaft.

In Southern climates, the majority of houses have unfinished attic spaces in which the fan unit can be located near the ceiling opening to discharge into the attic space and hence to the outside through properly located and sized louvres.

The above types of houses cover broadly the problems to be met in attic fan installations, and houses of both general classifications are to be found in the North and the South.

2. Location of Ventilating Unit

Fans which exhaust directly to the outside should be so located that they discharge with, and not against, the prevailing wind.

Fans which exhaust into the attic from the space below should be located over a central hall so as to be as centrally located as possible from all the rooms to be ventilated. Where no hall is available, the same applies to any room that may be selected instead. Care should be exercised to see that the discharge from the fan is as far as possible from adjacent walls, chimneys, etc.

3. Characteristics of Fan Unit

The fan should have quiet operating characteristics, either belt or direct-connected, be mounted in a substantial frame, and be equipped with a resilient mounted motor or other form of shock and sound-absorbing construction. Some resistance to air flow will always be present in attic ventilating systems. The resistance against which the fan must operate is determined by the size of the air intakes and exhaust openings (louvres). The recommended sizes of openings given in this Code are based on the field experience of many successful installations.

If smaller openings are used the resistance increases and the air volume handled by the fan is reduced. Therefore ratings of attic fans should be given at free delivery and up to 0.1" static pressure (inches of water).

4. Air Changes per Minute

No definite figure can be set up for the number of air changes per minute that should be provided. The rate of air change depends not only on the climate and locality but upon the individual preference of the user. Practice and experience have determined, however, that in 95% of the cases in the South a net air change of once a minute is satisfactory, while for locations in parts of the North it is satisfactory to change the air once every minute and one half.

5. Fan Selection — Example

The cubical content of an eight room house is 10,000 cubic feet. A one minute air change is desired. Select a certified fan rated to deliver 10,000 CFM at the estimated static pressure. Air velocities inside the house will vary with the number of openings through which the air is drawn and the relative location of these outlets and ceiling grilles. The occupant can regulate the system by adapting the various combination of openings to suit his comfort.

6. Air Velocities Through Inlet Grille and Fan Unit

Air velocities through the ceiling grille should not exceed 750 feet per minute, in order to keep air noise and static pressure as low as possible. Since the average velocity of the air leaving the fan ranges from 1200 to 1400 feet per minute we can establish a rough ratio for ceiling grille area to fan orifice area of approximately two to one. This ratio is based on a net grille opening of 84% of the gross area.

7. Attic Discharge Vents (Louvres)

The most important factors to consider are correct area and location. Unless structural difficulties interfere there should always be a number of discharge vents rather than one. If a number of openings are employed at different points of the compass, a head wind from any single direction has little effect on the performance of the fan. Vents in the ceiling of a porch whose roof forms a part of the attic space are particularly valuable since they discharge downward and are relatively free from back pressure due to head winds.

To keep out birds, all discharge vents should be covered with 1/2" hardware cloth. The net area of discharge vents (louvres) should be at least 20% greater than that of the inlet grilles. A convenient table for calculating the gross area of discharge vents is given.

Example:

A house with a cubical content of 10,000 cubic feet is to be provided with a one minute air change. The

gross square feet of floor area is 1250. Wooden louvres are to be used. The table requires a minimum louvre area of 1/40 of the gross floor area. Divide 1250 by 40 and the result will be 31.2, the number of square feet of gross louvre area needed.

If mosquito screening is required, all discharge vents should be double the sizes already recommended. Do not use mosquito screening if it is possible to avoid it, as it clogs up with lint and dust and needs frequent cleaning. To sum up, types of discharge vents include (a) side wall louvre openings; (b) soffit outlets; (c) outlets between rafters; (d) porch vents, and (e) roof ventilators.

8. Fan Types—Installation

There are two types of fans, (a) fans which discharge horizontally; (b) fans which discharge vertically.

(a) Fans which discharge horizontally are usually installed in an outside wall if the attic is finished, on the attic floor with a plenum chamber if the attic is unfinished, or in a penthouse if the building has a flat roof.

When the fan is mounted in an outside wall or in a penthouse, a tailor-made installation is usually required to fit the special conditions.

When a fan is installed in a plenum chamber, prefabricated plenum chambers usually meet the requirements of the installation. Prefabricated plenum chambers are usually the product of careful design and engineering on the part of some responsible company. Prefabricated plenum chambers should be constructed of sound-deadening material supported on a skeleton wooden frame.

Fabricated steel plenum chambers should be lined or coated with sound-deadening material and so constructed as to be free from vibration. The fan should be located at least one wheel diameter from the grille opening so as to be invisible from below and to minimize fan noise. If sound-deadening material is provided between the fan casing and the plenum chamber, a canvas throat is not necessary. Otherwise the connection between the plenum chamber and the fan casing should be No. 10 canvas and not less than six inches long.

The top of the plenum chamber may be horizontal or may slope down from the fan, but in no case should the cross section be reduced so much that it causes resistance to the air flow.

Automatic shutters may be installed instead of a mechanically operated flap door, operated by means of rope and pulley.

When an automatic shutter is installed over the grille opening, the vanes should open towards the fan in the same direction as the air flow. The shutters should cover the entire suction opening and be of such size as not to restrict the air flow.

The fan case should be mounted either on rubber pads, springs, or on a sound isolating pad. The fan and plenum chamber are mounted on a platform extending over the grille and the plenum chamber should be as nearly air tight as possible so as to get the full benefit of fan capacity in the area to be ventilated instead of merely re-circulating the air.

(b) Fans which discharge vertically are installed in the attic floor of unfinished attics or in penthouses where the building has a flat roof. No plenum chamber is required since the fan is mounted directly over the ceiling opening. A sound-isolating medium should be placed between the fan and the supporting frame. Either automatic or hand operated shutters are required below the fan to close the ceiling opening when the fan is not operating.

9. Protection Against Winter Heat Losses

Openings, whether louvres, porch grilles, soffit outlets, etc., should have removable covers of insulation board to cover them in winter. The grille opening or automatic shutter should have a similar cover. An alternative is to omit the covers and to insulate the attic floor with rock wool or other insulation. The latter solution allows moisture vapor to be dissipated and is the best from an operating standpoint since the fan can be operated for a few minutes during winter to freshen up the air in the house.

10. Electrical Installation

Attic fan installations using motors 1/3 HP and above should be fed by a separate circuit from the main service entrance panel. The contractor should provide a fused disconnect switch in the hall or other easily accessible location.

The Underwriters Laboratory Inspection Service requires that an automatic means be provided for cutting off the fan and closing the ceiling opening in the event of fire. A fusible link, set to open at 135° F. is recommended for this purpose and is installed in the air stream, preferably on the suction side of the fan, so as to operate a cut-off switch in series with the fan. Where the installation includes a flap or trap door, the fuse releases it and closes the ceiling opening. If automatic shutters are used, they close of their own accord when the fan stops.

All wiring should conform to the rules of the local Inspectors Bureau having jurisdiction.

As an additional precaution, fan motors may be equipped with auto-

(Continued on page 67)

Minimum Gross Outlet Areas for Attic Fan Discharge Vents

Type of opening:	Area for 1 minute air change:
Wood louvres backed with ½-inch hardware cloth.	Not less than 1/40 of the gross floor area.
Metal louvres backed with ½-inch hardware cloth.	Not less than 1/50 of the gross floor area.
Other openings such as those in soffits, etc. Plain openings backed with ½-inch hardware cloth.	Not less than 1/65 of the gross floor area.

If louvres are covered with No. 16 mesh screen, add a minimum of 100% of the gross louvre area. This may be done by:

(a) Doubling the size of the louvre opening.

(b) Constructing a boxlike frame behind the louvre or opening with a screened surface twice the area of the louvre.

Transformer Rewinding

by Homer Hull

Manager, Turner Electric Works
Jacksonville, Florida

MANY ELECTRICAL repair and motor rewinding shops have indicated interest in the rewinding of transformers. Those who desire to expand their business, as well as those who have already over-expanded and are suffering from lack of volume, might well consider entering this field of electrical repairs.

It is not our intention to discourage any member who wishes to engage in the transformer rewinding business, but we feel it our duty to say a few words of warning that might save some from learning the hard way, which is the way we learned.

The first and most important is volume. You must have sufficient volume to justify the installation of the most modern equipment for winding, assembling and testing. Our opinion is that sufficient volume is not less than one hundred transformers per month. More would certainly be desirable, especially if the sizes are small, such as are usually received from the Rural Electrification Associations.

Next and very necessary is personnel. You will need a well experienced and capable man with some engineering ability to head up your transformer shop. The actual work of dismantling, winding and assembling can be performed by good production workers. If experienced men are not available, they can be trained in a short time.

Assuming that you have the potential volume and a capable man, you will next be concerned about the amount of capital required. This, of course, will depend upon your volume. For those interested, we list below our investment in a transformer shop which has a capacity of 150 transformers per month.

Shop equipment	$13,000.00
Material and parts	21,000.00
Total	$34,000.00

The above figures do not include the shop building which, in our case, is leased. In addition to this, there is usually ten to fifteen thousand dollars in work in process and accounts receivable.

Naturally, we are all interested in profit. With sufficient volume, capable and experienced personnel and a well equipped shop, there is a satisfactory margin of profit in winding transformers. Last year, with a volume of $157,000.00, we were able to show a net operating profit of 10.5% before taxes. This was done in a shop located in the high rent area and with more overhead than our motor repair shop with the same volume.

Promoting the Service

Little difficulty was experienced in selling our services to the power companies. They had previously purchased new cores and coils from the manufacturers and installed them in their own shops. Our prices were figured so that we could show them a small saving on all sizes.

Transportation both ways was included in the deal. We purchased a truck with a large body suitable for hauling forty to fifty transformers at one load. If the trips are scheduled so that there is usually a full load both ways, the hauling costs are about 4% of the billing price.

To turn out the volume of business previously mentioned required thirteen men on direct labor, one foreman, and an assistant foreman. The foreman and his assistant did all the inspecting, testing and layout work.

The men on direct labor have an hourly rate but for the work on REA and distribution transformers they receive a flat rate. It was very easy to figure a piece work rate for the winding of each size, type and voltage.

There are so many different operations in the dismantling and assembling that we decided not to attempt breaking it down into straight piece work for each task. There are nine men working in this department. Their duties consist of dismantling, cleaning all parts, cleaning and painting cases, burning cores, stacking laminations and completely assembling, in fact, all the work except the actual

Three winding machines are utilized to rewind all sizes of transformers. Two small size Armature Coil Equipment Company machines are used for the 1½ to 7½ kva transformer coils; a Potter and Rayfield machine is used for intermediate sizes of 10 to 15 kva; and a machine developed in the shop from an old banding machine is used for larger transformers.

winding. These nine men are working as a team and all participate in a pool.

The pool is credited with a flat rate amount for each transformer as soon as it is completed and tested. This amount, of course, varies with the size of the transformer. Against this pool each draws his regular hourly rate pay each week. At the end of each month, the balance in the pool is divided among them in proportion to their earnings for the month as a bonus. This bonus usually is 20 to 30 per cent of their regular pay.

Incentive Plan Works Well

This method of compensation has been very satisfactory to both the company and the employees. It has helped to insure profits, increased production, and given the employees an opportunity to earn more in wages. However, it is not without its problems. We find that closer supervision and more rigid inspection is required.

A transformer shop should be arranged and equipped so that all work can be performed with a minimum amount of labor. We have installed mono-rails and electric hoists over winding machines, assembly benches and truck loading space. Small transformers are handled with an ordinary warehouse truck. Larger ones are placed on floats and moved with an hydraulic lift truck.

In our shop all materials and parts are placed out in the shop as close as possible to where they are to be used. No attempt is made to keep records of the materials used as our experience has taught us that it will always be a certain per cent of our monthly billing. At the end of the month materials are charged out on this basis and the inventory figures adjusted after the annual inventory. This method saves several thousand a year over the old stockroom system and the inventory seems to check just as closely.

Occasionally, it is necessary to record the materials on a special job for which we have no fixed billing price. This is done only for the purpose of determining the proper charge to the customer.

Ordinarily, we do not test transformers before dismantling them as they have already been tested in the power company's shops and are known to be defective. Those sent in by other customers are given a visual inspection and if not obviously burned out, are tested. First, we give them the usual tests for circuits, grounds and short circuits between windings. If no defect is found, they are then excited to double their normal voltage. If they pass this test and the megger readings are high, they are given complete tests.

Transformers are dismantled by one man with the aid of an electric hoist for lifting out the cores. All bushings, clamps, terminal blocks, tap changes and miscellaneous hardware are placed in metal parts trays and tagged with the shop order number.

We have found it advisable to burn most transformer cores and coils before unstacking the laminations. This is done in an incinerator or cleaning oven. There is usually enough oil and varnish in the old winding to do a good burning job. A gas burner is used to get the fire started. This burning is a quick and inexpensive way to get rid of the sludge, oil, varnish, and insulation.

Many methods of cleaning transformer tanks were tried before we decided to build a gas-fired cleaning vat large enough to hold a 100 kva case or several small cases. This vat is filled with a 5% solution (by weight) of caustic soda and is heated to boiling temperature. This alkaline solution will remove the paint and sludge in about fifteen minutes.

After removing the tanks from this cleaning vat, they are washed off thoroughly with clear water and then immersed in a mild acid bath to neutralize any remaining alkalines and prevent rusting before painting. For this acid bath, we are using a one-tenth of one per cent of chromic acid.

Chemical methods are also used to clean all small transformer parts.

All painting of tanks and covers is done with a spray gun. One coat of oil proof paint is applied on the inside. The outside is first given a coat of metal primer. When the primer coat is thoroughly dry, the tanks are finished with a coat of gray transformer enamel or aluminum paint, as specified by the customer.

Coil Winding Equipment

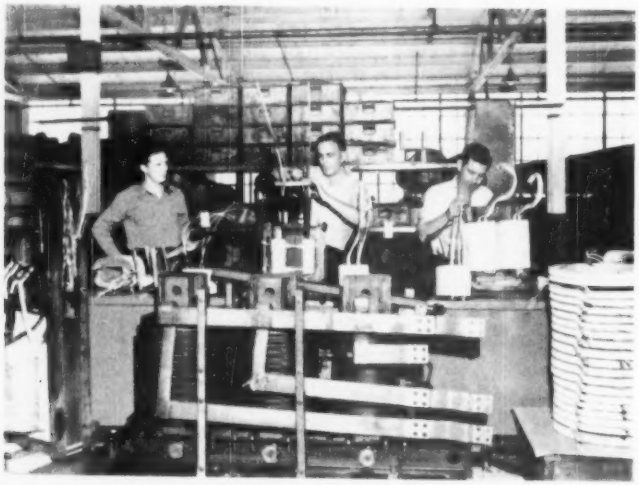
Three sizes of winding machines are required to efficiently rewind all sizes of transformers.

For 1-1/2 through 7-1/2 kva, we have two small size Armature Coil Equipment Company machines to which we have attached level winding devices for guiding the small wire used in primary coils. These machines operate at a top speed of 700 rpm and have a capacity of four transformers each per day.

A Potter & Rayfield machine is used for intermediate sizes. It has a top speed of about 250 rpm and winds two 10 to 15 kva transformers per day.

For the larger transformers, we have a "home spun" job that was made from an old armature winding machine. This machine runs about 150 rpm and can wind one 37-1/2 or 50 kva transformer per day.

All winding machines are equipped with back gear drives for winding the secondary coils. Each is driven by a direct current motor with Ward-Leonard control. The clutches and



Modified assembly line methods are used in this part of the shop where the cores are assembled and installed in tanks. The laminations are stacked and cores assembled on a long work bench located under a mono-rail hoist.

brakes in the winding machines have been removed and all starting, stopping and speed regulation are controlled by a foot operated resistor.

The winding of coils is the most difficult part of transformer work. As far as possible, we try to duplicate the original factory windings, using the same cross section, and equivalent insulating materials. Any changes in design of windings are always in accordance with best engineering practice.

The insulating materials most commonly used, are gray electrical pressboard electrical kraft papers, and varnished cambric cloth. Flexible mica is sometimes used where the difference in potential is high and the space limited. Double cotton covered square and rectangular conductors are generally used in the secondary coils, and in the primary coils also of larger transformers. Single cotton covered enameled round wire can be used in the primary windings of most small transformers. Where space will not permit the use of single cotton enamel, we have been using heavy Formvar wire and it seems to be satisfactory.

Many of the 2400 volt transformers are wound directly on the core, but practically all of the 7200 volt class have to be wound on forms. These forms are well constructed and made of hardwood. We now have several hundred of them, which have been numbered and catalogued as to transformer ratings and dimensions.

Over a period of years we have accumulated the winding data on most distribution and rural transformers of all ratings and makes. This data not only includes the number of turns and wire sizes, but a complete list of insulating materials and all essential dimensions.

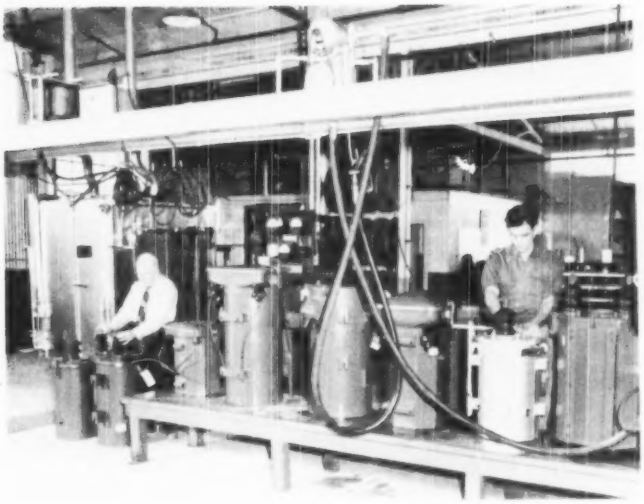
Exterior view of the new building occupied recently by Turner Electric Works. The new building houses the company's transformer rewinding and repair department as well as its motor repair department.

There is much for me to learn about impregnation. Every method except vacuum has been tried and, frankly, none has been entirely satisfactory. At the present time we are using a clear thermoset varnish and dipping the coils at room temperature. This method is very slow as the coils have to remain in the varnish for a long time to get good penetration. Coils that are well ventilated are usually soaked for about six hours, but the large compact coils have to remain in the varnish about twenty-four hours.

For baking, we have a large gas fired oven. Coils are baked at 250° to 275° Fahrenheit. The baking time ranges from overnight on some of the small coils to thirty-six hours on some of the large ones. Thirty-six hours may seem like a long baking time but that is what it takes to get the megger readings up.

Modified assembly line methods are used in the part of the shop where the cores are assembled and installed in the tanks. The laminations are stacked and cores assembled on a long work bench located under a monorail hoist. Along side this bench is a storage rack which holds the metal parts trays containing the cleaned parts.

For assembling the cores in the tanks, we have a low bench about sixteen inches high and long enough to hold ten small transformers or six of medium size. This bench is also under the monorail. Next to the assembly bench are steel parts cabinets containing new bushings, gaskets, terminals and other parts needed for the final assembly. Nearby are racks of lead wire. (Con't on page 66)



After transformers are assembled and filled with oil, they remain on the assembly bench overnight before testing. This gives time for the air bubbles to rise to the top before applying the high potential test. The tests made include insulation tests, polarity and ratio tests, and measurement of core losses and exciting currents at the rated voltage of the transformer. A high potential test is made and a complete test report is prepared which is mailed to the customer along with the invoice.

Part 3 - Survey of

Distribution Practices

by H. E. McDowell
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Dallas, Texas

UNDERGROUND SECONDARY network practice is well established. Network protectors have been improved until they have reached a state of near-perfection, that is, if proper inspection and preventive maintenance measures are taken. The trend seems to be toward installation of supervisory, or at least alarm facilities, to monitor protectors, this being prompted by the desire to reduce operating labor costs.

Type of insulation best suited to secondary cables remains a moot question. Apparently none of the types presently available are considered to be ideal. The objective is an inexpensive insulation, non-metallic sheath, non-gas producing except just sufficient to snuff out an arc, that will not become tacky when hot, that will not deteriorate, and that will most readily dissipate heat. A small order for the cable manufacturers.

Increasing network load densities probably will create a demand for larger conductors—particularly in the case of primaries, to reduce cost of switching and bus facilities and to economize in duct space. To date most systems have maintained their original practices which generally range from 200,000 to 400,000 circ mils.

Large vaults serving large customers are treated virtually as spot networks although street ties usually are provided. Street mains do not provide adequate reserve against loss of transformer banks for 750/1000 kva sizes, but street ties serve the purpose of furnishing or reserving supply to street mains. In many sections of the network, the mains may actually carry but little load.

More attention is being given to installation of properly sized limiters to insure isolation of faults. The portable d-c calculating boards have proved to be a useful tool in analyzing short-circuit conditions. At best, there are likely to be numerous spots in a network where isolation cannot be guaranteed; but faults are few anyway, and very little trouble results.

Upper sizes of individual networks seem to range from 50,000 to 200,000 kw. The criterion is the ability of the system to pick up the network load. It is customarily assumed that the load to be picked up will be peak load less 40 per cent.

New vaults are designed with more regard to ventilation and to preventing damage to customers' and public property in the event of fire. A survey of conditions in the older vaults well might be in order. I have seen some vaults that could cause trouble of calamitous proportions.

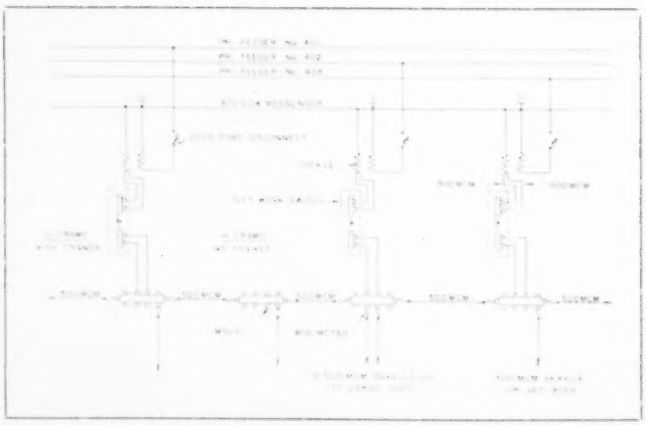
Various means for fire protection have been studied but generally have been ruled out because of being relatively impractical or too costly. Non-flammable substitutes for oil have met with favor in some places but are not considered a panacea. Askerel, when volatilized by an arc, can create a real hazard inasmuch as toxic gases are liberated. The so-called dry type transformers have proven that they are not a cure. Cable failures probably account for more vault fires than transformers. The consensus appears to be that vaults should be so arranged as to prevent trouble therein from spreading; details of construction should be carefully engineered to lessen risk of trouble; street ties and customers' services should have weak links (limiters).

Overhead Networks

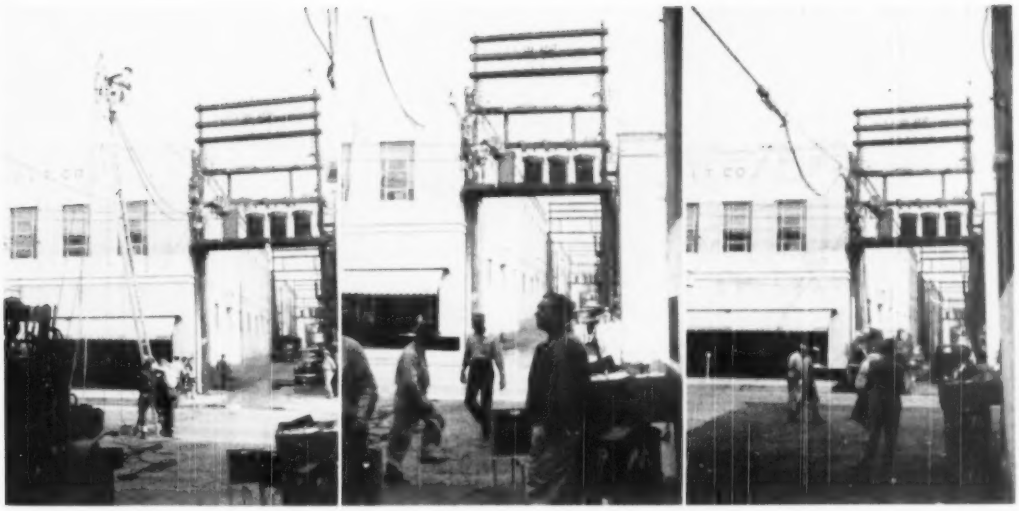
Overhead networks were installed many years ago in several situations, some being entirely overhead, some constituting fringes on the underground networks and being fed from underground vaults. So far as I can learn, all have served satisfactorily.

During the intervening years, there has been much talk of overhead networks for application in business sections where load densities are modest. Little has been done. Probably the greatest deterrent has been cost of network protectors and of providing secondary cross ties between alleys to complete the secondary grid. Added costs have to be justified by greater operating reliability.

Recently, there have been some rel



This one-line wiring diagram shows equipment details and circuits of a portion of the overhead network in operation in Waco, Texas.



The overhead network in Waco, Texas, occupies alleys in the business portion of the city. These views taken during installation of the overhead secondary cable shows a typical H frame with transformers, network switch, and other details of this type of construction.

atively simple installations which, in essence, are single alley spot networks. Some utilize network protectors, (which are now offered in smaller capacities and at more moderate prices); some use only fuses to clear the system of primary faults. Obviously, the fused networks should be supplied by primaries that originate at the same bus and which are relatively immune from faults. Otherwise the replacing of fuses would become onerous and service complaints would be many and loud.

It may be expected that various problems in connection with such spot networks will arise and will have to be resolved. The advantages of the network are sufficient, we think, to justify the experiment, particularly where circumstances are such as to favor placing secondaries in cable.

Application of Overhead Cables

During the past ten years there have been extensive applications of overhead primary cables. A variety of well-known reasons have been advanced to justify this more expensive construction and the truth of certain claims has been demonstrated:

a—Appearance is much superior to open wire;

b—Adaptable to restricted spaces where open wire would create hazards;

c—Physical superiority of a degree that has enabled the cables to survive better the effects of trees and winds of hurricane intensity;

d—can be carried through rather than over trees, cutting pole costs and reducing tree troubles; and

e—Saving of pole space.

Investment involved appears to be of the order of two to three times that of open wire primaries where conditions are favorable to the latter. On the other hand, I have known cases where, due to tree troubles, lines have had to be rebuilt one or more times at an accumulated cost exceeding cost of a cable installation.

Thus far, overhead secondary cables have not been used extensively although a careful comparison of costs of installations in commercial districts, where moderate load densities occur, shows that cables are competitive, or nearly so, with weatherproof or bare conductors. In such comparisons, due credit should be accorded the better voltage regulation and reduced kvar losses of the cable construction. However, the greatest attraction of overhead secondary cables is less tangible, being the improved appearance and optimum safety to public, firemen, city electricians, etc., thereby provided.

Considerable ingenuity is needed in arranging transformer buses, service pull-offs and other details in order to realize a full measure of the possible advantages. Negligence, in this regard, can greatly nullify the benefits one has reason to expect. I wish to lay emphasis on this subject because I consider that secondary cables can be utilized at a very reasonable incremental cost, under congested conditions and where load densities are reasonably high, to remove excesses and hazards and thereby improve public relations, but attainment of optimum results is dependent upon careful planning with closest attention to details that are apt to be regarded as inconsequential.

It will be interesting to observe the results and acceptance of recent installations.

Loading of Transformers

Much scientific data have been published regarding life expectancy for transformers with different degrees of loading. This is one angle of the problem, particularly where the transformer installation serves loads direct and little if any secondary is involved. More frequently, transformer loading is related to voltage regulation, which in turn is related to means provided for controlling voltage regulation.

In the past it was general practice to attempt to load transformers during peak periods up to 175 to 200 per cent of rating, resulting in connected-transformer capacity to feeder demand ratios of unity or even less. In the case of feeders serving residential and small commercial loads we were accustomed to consider a ratio of 1.25 to be about the ceiling for economical practice.

I do not know what bracket of ratios prevails today, the assembly of pertinent data by our clients having been discontinued several years ago. Undoubtedly a high degree of loading generally has prevailed during and

since the war because of inability to keep pace with load growth.

Transformers that are equipped with secondary breakers are now supplied by several of the transformer manufacturers and the secondary breaker is being widely adopted. Recent data indicate that these breakers permit of loadings of approximately 300 per cent for thirty minutes, or 275 per cent for one hour, whereas one per cent sacrifice in life expectancy calls for a 200 per cent limit for either interval. The Westinghouse danger signal is said to reflect 200 per cent loading for intervals varying from one to three hours, depending upon size of transformer. I found an old CSP curve that indicates that approximately 175 per cent loading will operate the danger signal and 200 per cent will trip the breaker at the end of a 6-hour interval.

Postwar Practices

During the period since the war, up to the present time, many companies have found it impossible to substitute transformers quickly enough to avoid secondary breaker tripping although red signals were promptly reported. This has led to a program of replacements based upon statistical surveys, presumably with wide capacity margins allowed. Some companies have found that this apparently liberal method has failed to meet the load-growth pace. Before the war, load surveys had the primary purpose of keeping transformers loaded. Quite a change!

For design purposes, customary allowable drop in primaries is 3 volts, transformer drop 3 volts and 4 volts is allotted to secondaries and services. In actual practice, when 12-kv primaries are employed and capacitors are installed in proper amounts, the primary drop is apt to be less than 2 volts and the transformer drop more than 4 volts.

I am informed by the savants that 150 to 160 per cent loading represents the point where cost of losses imposes economic restrictions. Such loading is within safe thermal limits. With occasional exceptions, it should fall within reasonable regulation limits provided the primaries operate in the 12-kv voltage class and are equipped with justifiable regulating accessories. If secondary capacitors should gain general acceptance and switching of secondary capacitors becomes economically feasible, the allowable transformer drop would be still further expanded. Therefore, I feel that we have reason to anticipate such changes in the art as will largely modify or even remove the present voltage regulation restriction on loading transformers up to their economic loss limits.

Primary Networks vs Radial Feeders

Very few new networks have been installed or proposed during recent years. Within the realm of our client associates there has been but one new installation. The urge in this instance was an estimated economy by virtue of utilizing the 12-kv feeders for the dual purpose of supplying loads and of providing the equivalent of transmission ties between a new generating station on one side and an existing transmission line terminal on the opposite side of the city. On paper, there appeared to be an investment saving, at least for a period of a few years. This system is in operation but not without difficulties having been encountered in obtaining proper relaying. I am not sure these difficulties have been completely resolved.

One of my associates pointed out, recently, that for a given number of feeder circuit breakers serving a given territory by means of equivalent mileage of feeders, the exposure in a primary network is double that of a radial feeder. This being true, the radial feeder enjoys the distinct advantages of half as many tripouts per customer, simpler and faster relaying. It appears to sacrifice but one advantage, namely, such improvement in voltage regulation and losses as may be afforded by load diversities.

There is every indication that in the future primary networks largely will be confined to existing networks and special situations.

Lack of Standardization

I come now to a discussion of lack of agreement, failures to standardize, which unquestionably are costly to the industry, unnecessarily so because reasons for differences of opinion have been either minor or nonexistent. Some of these divergent views could be adjudicated just as satisfactorily by vote as by discussion—cases of tweedle dum, tweedle dee.

Consider poles and crossarms, the timber and treating specifications. It was called to my attention by a southwest pole producer that no two purchasers agreed as to design of the pole top roofing. Many required two-way slope but at different pitch, many required one-way slope but with divergence as to degree of slope and as to direction of slope with respect to bolt holes. Complete disagreement existed as to number and location of bolt holes. This situation applied to classes regularly used for distribution lines, as well as to less used sizes. Within my experience, the results experienced have been precisely the same with any roofing design. Further, no one could be hurt greatly if a uniform specification were adopted for bolt holes on poles of the commonly used classes and lengths.

At times I have attempted without success to resolve other differences in the timber and treating specifications of several companies where differences were inconsequential and just sufficient to complicate the production processes and effectively prevent the desired stocking of finished material.

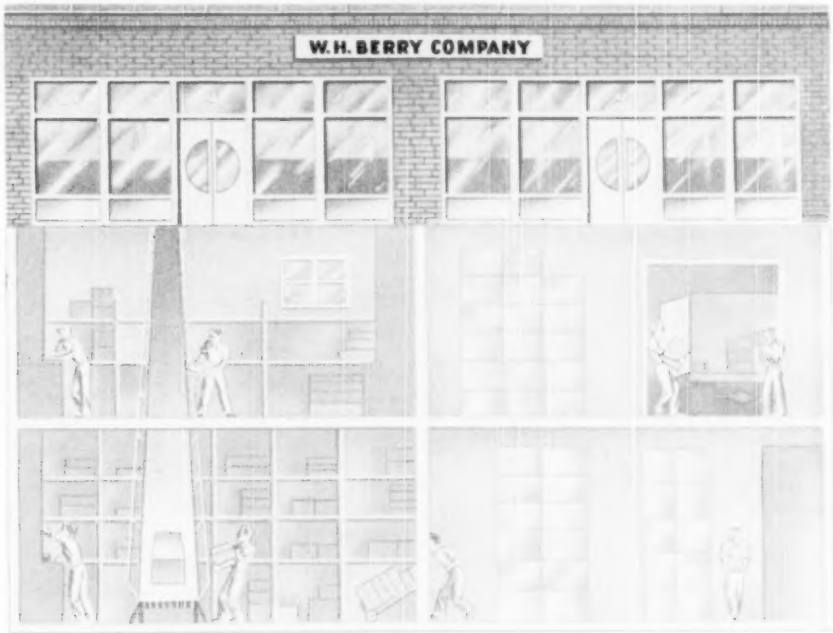
Practice continues to vary as between use of hard and medium-hard drawn copper. This assuredly could be resolved. Many companies continue to use weatherproof insulation on primaries, secondaries, or both. I am familiar with all of the reasons advanced in justification of weatherproof insulation but the fact remains that a great many systems employ, with entire success, bare conductor at all voltages. In this connection, it might be mentioned that No. 6 copper, so commonly used for primary conductors, lacks desired mechanical and slow fusing properties. It is timely to standardize on a more suitable minimum size conductor.

Voltage levels have been the source of contention and subject of committee work at least as long as I have been identified with the utility industry—truly a long while. Far be it from me to attempt to promote a particular schedule of voltages at this time, but I call attention to the probability that uniform practice would now prevail if agreement early had been reached on an objective voltage in each class toward which to trend, irrespective of its immediate adaptability.

Confusion reigns in respect of transformer taps. The buyer seems unable to escape the conclusion that each tap offered by manufacturer "at no cost" represents a bargain. Quite some years ago, when the so-called total transformer appeared (prompted by my associates), effort was made to eliminate all taps. This was accomplished initially but not for long. Manufacturers, in an effort to meet competition, offered taps "without cost" and the trade was convinced that any substitute for taps would constitute a net additional outlay of funds. I have no wish to revive this controversy. I mention it as being representative of many cases where divergent practices are attributable (if we look under the chip) to the feeling that we are getting something for nothing.

(*Continued on page 66*)

BUILT FOR BETTER SERVICE



From TOP to BOTTOM, ALL NEW FOR YOU

Yes, it's approximately 20,000 square feet of warehouse to assure you of the products you need and the kind of service you want. This new warehouse will make it possible for us to continue our slogan "Orders shipped from Atlanta the same day received".

The building has been completely remodeled and is equipped with the most modern type conveyors to all floors. In addition, there are truck docks, railroad siding and parking facilities.

This is your invitation to visit our new office and warehouse at your first opportunity.

W. H. Berry

W. H. BERRY CO.

45—47 ALABAMA ST., S. W. ATLANTA 3, GEORGIA

Best Buy

...the BIG 10-ROLL CAN of GOLD SEAL TAPE!

Better way to buy tape, for regular users, is this handy 5 pound can, holding ten 8 oz. rolls of Gold Seal.

The sturdy fiber can, with metal top and base, not only protects the tape, but serves as a handy container for small items like nails, screws, and nuts when empty.

Every roll of Gold Seal Tape in the can is cellophane-wrapped and sealed to stay factory-fresh until you are ready to use it.

Whether you buy the can, or single rolls, you'll find Gold Seal Tape always just right in "tack", clean handling, non-raveling, non-peeling. Try it . . . you'll agree it's the best buy in tape! Jenkins Bros. (Rubber Div.), 80 White St., New York 13, N. Y.

Jenkins Bros. also make Diamond Seal Friction and Rubber Tapes which meet ASTM and Federal Specifications

JENKINS *Gold Seal Tape*

FRICTION and RUBBER TAPES

MADE BY JENKINS BROS. . . . MAKERS OF FAMOUS JENKINS VALVES

Atlanta Sales Representative **W. H. BERRY CO.** 45-47 Alabama St., S.W.

WALL FAN
ECONOMY EXHAUST FAN
SQ. FRAME H. D. QUIET EXHAUST FAN
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PEDESTAL FAN
CEILING FAN
PEDESTAL FAN
SQ. FRAME IND. BUCKET BLADE EXH. FAN
CIRCO AUTOMATIC SHUTTERS
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MAKE IT A
FRIGID
FANS 50
SQUARE FRAME BALL BEARING EXHAUST FAN
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PADDLE WHEEL BLOWER
H. D. IND. BELT-DRIVE EXHAUST FAN
ABL WINDOW VENTILATORS
SPRAY BOOTH FAN
RANCH TYPE ATTIC FAN
WINDOW FANS
HASSOCK FAN
Southeastern Representative & Warehouse:
W. H. BERRY CO. 45—47 ALABAMA ST., S.W., ATLANTA 3, GA.
CIRCULATORS & DEVICES MFG. CORP.
128-168 THIRTY-SECOND STREET · BROOKLYN 32, N. Y.

LOWELL

INSULATED WIRE DIVISION

The Overlakes Corporation

LOWELL, MASSACHUSETTS

FOUNDED 1903

One of the Country's first manufacturers of insulated electrical wires.

Whenever you need any of the items below, you can be sure of quality, service, and dependability when you purchase Lowell Wire.

- Telephone Wire
- Telephone Cord
- Communication Wire
- Television Lead-in Line
- Bell Wire
- Rubber Lamp Cord
- Flexible Cord
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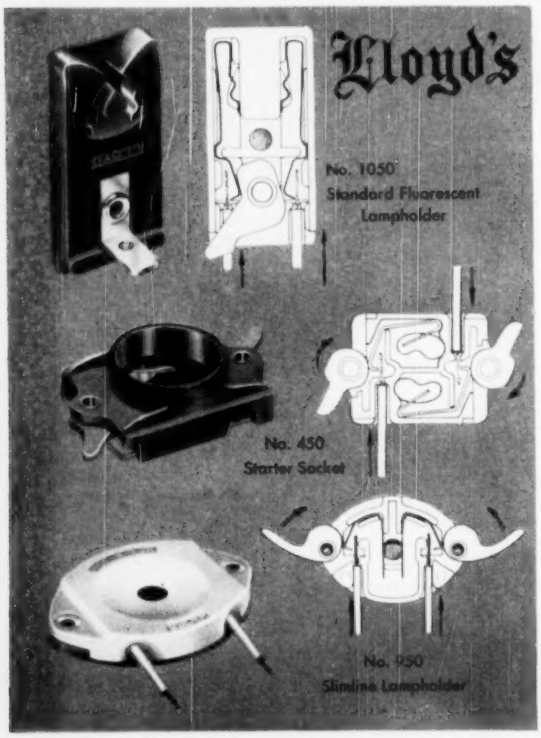
- Plastic Wire
- Cord Sets
- Service Cord
- Fixture Wire
- Thermostat Wire
- Hook-up Wire
- Extension Cord

Insulations of rubber and thermoplastic. Jackets of neoprene, rubber and thermoplastic.

Represented in the Southeast by

W. H. BERRY COMPANY

45—47 ALABAMA ST., S.W. ATLANTA 3, GEORGIA



Great Contribution

to the

LIGHTING INDUSTRY!

The CAM-LOC 1 Second Wiring Assembly

Faster! Surer! Safer! That's what Cam-Loc means. Pre-stripped wire leads are inserted and cam levers closed to provide instant positive electrical contact. No tools or screws needed. This great improvement is now available with Lloyd's No. 1050 Standard Lampholder, No. 450 Starter Socket and No. 950 Slimline Lampholder (low voltage end).

Ask for Complete Information and Samples

Lloyd Products Company

225 Chapman Street Providence R. I.

Represented in Southeast by

W. H. BERRY COMPANY

45-47 Alabama St., S.W.
Atlanta, Georgia

Now--Atlanta Stock

For your CONVENIENCE

All Popular Models of Tork Clocks

NO. 948-A TORKMASTER
30 AMPERE SINGLE POLE
$10.00 List

Minimum setting 2 hours adjustable in 15 minute steps. Beautiful Drawn Steel Case. Telechron motored.

THE LONG FAMOUS NO. 191
20 AMP. SINGLE POLE

Minimum setting 45 minutes. Has many features.

- Weekly Calendar Wheel
- Astronomical Dial
- Hand wound spring reserve
- Out door cases etc.

SINGLE & DOUBLE POLE
35 AMPERES

Tork—the complete line—can supply your needs for all Commercial or Domestic installations—Defrosting—Poultry.

For Time Switches Phone or Write

W. H. BERRY COMPANY
45—47 ALABAMA ST., S. W. ATLANTA 3, GA.

McKINLEY-MOCKENHAUPT CO.

ELECTRIC RANGE AND INDUSTRIAL OUTLETS

No. 53

No. 53 Receptacle. Use a 4" or 4-11/16" square box 1½" or more deep, with plaster cover raised ½" or more for one flush device. Has screw holes properly spaced to attach our 1 gang plates or 2 gang plates.

No. 60

No. 60 Receptacle for surface mounting without ground contact. No. 65 Receptacle for surface mounting with ground contact.

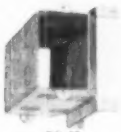
McKINLEY "SLIK TRIK" BOXES

CB 10

Mounting medium integral part of box. Eliminates need of plaster cover. Reduces possible error in positioning of box. Speeds up installation.

CB 12

For walls of brick, stone, concrete, etc. Reduces cutting of masonry walls. Eliminates need of plaster cover. Mounting medium integral part of box.


CB 22

Two way box for back to back outlet. 42.5 cubic inch capacity. Eliminates need of plaster cover. Mounting medium integral part of box.

SOUTHERN REPRESENTATIVES

GEO. E. ANDERSON CO.
1901-3-5 Griffin
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WAREHOUSE STOCK Carried by
W. H. BERRY CO.
45-47 Alabama St., S.W.
Atlanta 3, Ga.

FRED G. JUDGE
P. O. Box 232
Miami 2, Fla.

IN STOCK

READY FOR IMMEDIATE DELIVERY

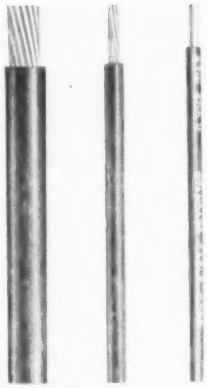
W. H. BERRY COMPANY carries a complete stock in their new warehouse—ready for shipment the same day your order is received.

Building wires at their best for general use and in wet locations. Types T-TW-TF-TFF-80 machine tool wire. These wires offer: Toughness . . . Flame Resistance . . . Wide Color Range . . . Easy Handling . . . Long Life . . . Chemical Resistance . . . Small Diameter

Standard Cable offers 3 wire electric range cord with moulded on solid vinyl plug. Rated 50 Amps., 250 Volts —

- Two No. 6's and one No. 8 extra flexible copper conductors.
- Adjustable metal strain relief clamp included with each cord.
- Beautifully finished in satin black and sparkling white.
- Nothing to assemble — nothing to lose — nothing to break.
- Polarized blades.
- Standard lengths 36 inches — special lengths upon request.

Standard package 25 cords
Shipping weight: 200 lbs. per 100 cords.



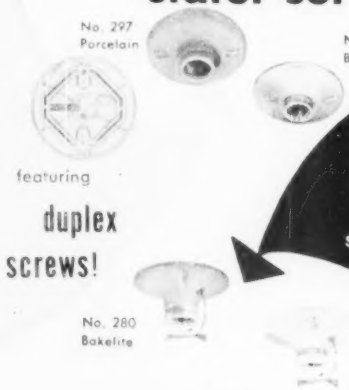
STANDARD CABLE CORP.

Dear Customer:

We greatly appreciate your past favors and trust we will continue to receive your valued business.

W. H. "Bill" Berry
J. H. "Jim" Berry
B. T. "Toby" Flatau
C. L. "Leon" Kemp

over the counter
slater sells
on the job
slater serves



featuring
duplex screws!

New 1950 catalogue on request.

Slater ELECTRIC & MFG. CO.
Dept. 1, Woodside, N.Y.

Fla., Ga., Ala. Representative:
W. H. Berry Company, 45-47 Alabama St., S.W., Atlanta 3, Ga.

INDUSTRY NEWS

Rural Contractors Meet in Atlanta

The Rural Electrical Contractors Association held its fifth annual convention at the Atlanta-Biltmore Hotel, Atlanta, Georgia, from February 12 to 14, inclusive. Among those present were rural electrical contractors from all over the United States. Also present were representatives from the Rural Electrification Administration, Washington, D. C. The personnel from Washington included Claude Wickard, REA administrator, W. C. Wise, deputy administrator and J. K. O'Shaughnessy, REA chief engineer, along with other members of the Administration.

The convention program included addresses on a wide range of topics relating to rural line construction. One of the highlights of the meeting was the discussion by W. C. Wise, REA deputy administrator, of the status of the REA loans for rural telephone systems. Nearly 200 applications for such loans, totaling a little more than $30,000,000 have been received, but none has been acted upon yet by REA.

"There are 1,117 prospective borrowers throughout the country for REA telephone loans," Mr. Wise said, "but we are going slow in starting the program for two reasons: (1) the telephone business is much more hazardous than the electric power business, and (2) we have had difficulty in obtaining adequate personnel for the telephone end of our operations."

Mr. Wise pointed out that of two billions of dollars loaned for rural electrical service, REA has had a loss of only $35,000. "With this sort of a record behind us," he said, "we want to be sure to set up the rural telephone portion of REA's program in such a way that we can approximate the electric power record."

Other principal speakers at the convention were: Claude Wickard, REA administrator; Clark McWhorter, president of NRECA; Clarence Warren, RECA legal counselor; J. K. O'Shaughnessy, chief of the engineering division, REA; Harry Dewar, project engineer; Lester W. Bartsch, head of the administrative engineering division, Bureau of Reclamation; J. B. McCurley, power division, REA; James B. Polhill, project manager, Jefferson County Electric Membership Co-Op; Dixon Lewis, Washington representative of the Aluminum Co. of America; C. H. Porter, manager, industrial sales of the Anaconda Wire & Cable Co.; M. P. Nickerson, vice-president, Westinghouse Electric Supply Co.

At the concluding session of the convention R. N. Campsey, of R. N. Campsey Co., Denver, Col., was elected president to succeed R. E. Mattison, of R. E. Mattison and Co., Oklahoma City, Okla.

R. E. Mattison, Jr., of R. E. Mattison and Co., Oklahoma City, president of the Rural Electrical Contractors Association, presided over the fifth annual convention held in Atlanta.

IES Southern Conference Held

The Southern Regional Conference of the Illuminating Engineering Society was held March 6-7 at the Henry Grady Hotel, Atlanta, with the Georgia Section as host.

Attending the Conference were members from the Georgia Section, New Orleans Section, Florida Chapter, Carolinas Chapter, Tennessee Valley Chapter, Southeast Florida Chapter, the Atlanta Residence Lighting Forum, and the Mississippi Student Branch of Mississippi State College.

Registration opened Monday, March 6, and Joe B. Browder, vice-president of the Southern Region, presided over the opening technical session held that morning. Jack H. Murrah, chairman of the Georgia Section, welcomed the delegates, followed by opening remarks by Mr. Browder. Charles H. Goddard, president of the Illuminating Engineering Society, presented an address, "IES Activities."

The afternoon technical session, with R. Brad Fogarty, chairman of the Conference Committee, presid-

Looking over the program of the fifth annual convention of the Rural Electrical Contractors Association, held in Atlanta, recently, are Ivan Sossman, head of engineering section, REA, one of the speakers who addressed the group; Roy Richards, of Roy Richards Co., Carrollton, Ga., vice-president of the Association; and R. N. Campsey Co., Denver, Col., who was elected president of the Association to succeed R. E. Mattison, Jr.

ing, opened with "The Planned Lighting Program," presented by J. Mason Gulliory, and sponsored by the New Orleans Section. Buford H. Martin spoke on "Prescribing for Comfortable Seeing in the Office," sponsored by the Tennessee Valley Chapter, and "The Technique of Sports Lighting" featured E. W. Michel, sponsored by the Carolinas Chapter.

During the evening session, including a banquet held that night, at which President and Mrs. Goddard were honored guests, Toastmaster Hal M. Horton introduced Arthur A. Brainerd, president of the U. S. National Committee, International Commission on Illumination. Mr. Brainerd's address to the gathering was "Lighting—a World Wide Interest."

Harold L. Salaun, chairman of the New Orleans Section, presided at the Technical Session on Tuesday, March 7, and turned the speaker's platform over to Frank E. Keener, who presented an address on "Forty Years of Textile Lighting," which was sponsored by the Georgia Section.

"Traffic Safety Lighting — Its Theory and Application," sponsored by the Southeast Florida Chapter, featured R. S. Bostwick, followed by E. R. Commery's "Architectural Lighting in the Home," sponsored by the Atlanta Residence Lighting Forum.

The noon luncheon, with Mr. Browder presiding, featured Hartlee Branch, Jr., vice-president and general manager of Georgia Power Company, whose subject was "Industry Looks to the South."

K. C. Association Elects 1950 Officers

Eight 1950 vice-presidents and 12 board members have been elected by the Electric Association of Kansas City. Yale Witschner, Westinghouse Electric Corp., is the new president and is also show director of the group's co-operative activity, the annual Exposition of Electrical Progress.

A change in the association's constitution created three new divisions and posts for divisional vice-presidents. New sections are: the Manufacturers Agents and Representatives, whose vice-president is J. Lewis Bretz, W. F. Howe & Co.; the Electrical Supply Wholesalers Division, headed by J. A. Ekstrom, of Glasco Electric Co.; and the Electrical Appliance Wholesalers Division, with K. G. Gillespie, of Jenkins Music Company, as vice-president.

Other divisional leaders elected are: Utilities Division, C. Myron Lytle, Kansas City Power & Light Co.; Manufacturers, A. A. Dalms, Allis-Chalmers Mfg. Co.; Electrical Contractors, John C. Murray, Murray Electric Co.; Electrical Appliance Dealers, E. J. McGrannahan, Jenkins Music Co., and Maintenance, Service, and Repair, John E. Launder, Independent Electric Machinery. C. M. Anderson, General Electric Co., continues as treasurer.

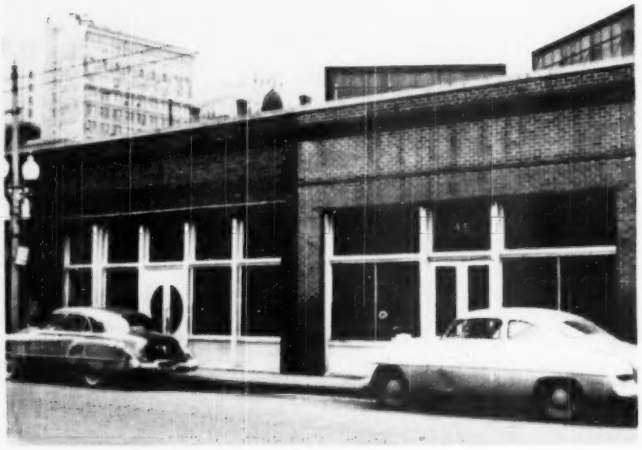
New Market for Residential Fixtures

An interesting development in the marketing of residential lighting fixtures has been reported by Carl Glatthar, president of the Glatthar Lighting Company, Cleveland, in that many sales are originating in hospitals.

Mr. Glatthar received this information from his dealers and distributors, who tell him that residential fixtures are in demand for nurses' quarters and the living quarters of other personnel of hospitals and institutions. This demand originates from the need to create a homelike atmosphere as a relief from the tedium and strain of the hospital.

Dealers who have learned about the market are finding cordial reception to their lighting ideas with good acceptance in re-lighting jobs on living quarters and also when figuring new wiring jobs on proposed hospitals.

The unit sale in such instances is higher than average, according to figures collected by Mr. Glatthar.



The new headquarters for W. H. Berry Company, in Atlanta, contains a basement and subbasement representing 20,000 square feet of space for offices and warehouse stocks of the manufacturers represented.

W. H. Berry Co. In New Location

Completely remodeled offices and warehouse, consisting of main floor, basement, and sub-basement, of the W. H. Berry Company, Atlanta, are located at 45-47 Alabama St., S. W.

The office and warehouse covers approximately 20,000 square feet and is equipped with modern conveyor to all floors in addition to truck docks, railroad siding, and parking facilities.

W. H. Berry, Jr., founded the company on July 1, 1937, as manufacturers' agent serving electrical distributors in the Southeastern territory. For six years prior to this, he was associated with various branches of the electrical industry.

The organization's four salesmen cover the states of Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

In order to provide better service in the Southeast, Berry Company will maintain stocks in the Atlanta warehouse on products manufactured by the following companies: Jenkins Brothers Co.; Circulators & Devices; Chase-Shawmut; Lowell Insulated Wire Co.; Lloyd Products Co.; Tork Clock Co.; McKinley Munkenhaup Co.; Slater Electric Co.; Standard Cable Corp.; and Presto Electric Co.

•

New southern dealers for Allis-Chalmers general machinery division are the Foster-Thornburg Hardware

how GOOD can PLANNED LIGHTING be without good equipment?

THE answer is—no better than a building plan without good building material. There is no dodging the fact that Good Equipment is the BASIC factor in a GOOD LIGHTING PLAN. It is the lighting units, the lampholders, the ballasts, the reflector, etc., which MAKE or BREAK the final results, in terms of sustained lighting efficiency, low-cost maintenance and dependable operation.

That's why, no matter how good the Lighting Plan, the results may be disappointing unless the plan includes GOOD EQUIPMENT.

the PUBLIC must be BETTER INFORMED on the importance of GOOD lighting equipment

As an industry, and as individual business men, we fail in selling PLANNED LIGHTING when we do not sell the importance of GOOD EQUIPMENT at the same time. It is our obligation that we keep faith with our customers by giving them the UNVARNISHED FACTS about the DIFFERENCE between GOOD and INFERIOR or SUBSTANDARD EQUIPMENT in terms of the factors listed below.

The buyer is entitled to KNOW these facts and to be TOLD and SHOWN that there are POSITIVE PROTECTIONS provided by the lighting industry, which assure him that the equipment he buys is in the GOOD EQUIPMENT BRACKET . . . the QUALITY BRACKET. *Proof of Quality* in lighting equipment is MADE EASY through such proof elements as:

CERTIFIED BALLAST LABEL

RLM LABEL

UNDERWRITERS' LABORATORIES LABEL

ELECTRICAL TESTING LABORATORY TESTS

These provide the buyer not only with the assurance that MINIMUM STANDARDS for performance have been met, but also that UNIFORM QUALITY is continuously maintained from one piece of equipment to the other.

FREE Booklet . . . The RLM Standards Institute has published a booklet containing the detail of each specification for each type of lighting unit for which RLM Standards have been established, as well as a complete summary of the IMPORTANCE OF THE LABEL in terms of CUSTOMER BENEFITS.

How the RLM Label provides assurance that the equipment is of uniformly high quality is shown through an outline of the RLM CONFORMANCE PROGRAM. Under this program, the Electrical Testing Laboratories make periodic tests of samples obtained from factory or market place to make sure that all equipment bearing the RLM Label consistently and continuously adheres to RLM Standards.

Make the RLM BOOKLET a part of every Planned LIGHTING PROPOSAL! . . . Write to the RLM Standards Institute for your COMPLIMENTARY COPY (or copies) of the RLM SPECIFICATION BOOKLET *today*. Plan to attach a copy to every PLANNED LIGHTING proposal you submit . . . let it help you point out to your customers that GOOD EQUIPMENT is BASIC to GOOD PLANNED LIGHTING.

the PUBLIC is entitled to KNOW these FACTS about GOOD LIGHTING EQUIPMENT

CONSTRUCTION: Good Lighting Equipment features structurally sound fabrication and heavy steels for maximum resistance to sag, distortion and breakage.

FINISH: Good Lighting Equipment features reflector finishes that insure your getting all the light you pay for . . . this year and ten years from now! That is why good equipment so overwhelmingly features PORCELAIN ENAMEL—the one and only commercially available finish that cannot deteriorate or corrode, regardless of the industrial atmosphere. Additional advantages of Porcelain Enamel are (1) that it is the only finish whose original efficiency can be sustained year after year by simply washing it with soap and water, and (2) that it is UNSURPASSED as a reflecting surface, because it ideally combines a high reflection factor with a high diffusion factor, insuring high light output with a minimum of glare.

REFLECTOR DESIGN: Good Lighting Equipment insures good lighting through reflector design that conforms to the most accepted principles of Illuminating Engineering. Such design protects the workers' eyes while delivering, not only the *most light* per dollar, but also the *required quality of light* for the individual Seeing Task.

SOCKETS, STARTERS, LAMPHOLDERS: Good Lighting Equipment features ruggedly constructed parts that withstand years of use and embody special design which facilitates quick, money-saving maintenance and low-cost operation.

BALLASTS: Good Lighting Equipment insures you against trouble by employing only the highest quality certified ballasts. Ballasts last longer because sound electrical and mechanical design prevents high temperature ballast operations. Lamps last longer because certified ballasts supply proper starting current and maintain proper operating watts to the lamp. Present wiring capacity is used most efficiently by the high power factor of quality ballasts.

This Advertisement is published in the Interest of the Entire Lighting Industry by

RLM STANDARDS INSTITUTE

The letters RLM stand for Reflector and Lighting Equipment Manufacturers

Co., Huntington, W. Va., and Baton Rouge Electrical Supply, Inc., Baton Rouge, La.

Foster-Thornburg Hardware is now dealer for Allis-Chalmers motors, controls, Texrope drive equipment, centrifugal pumps, transformers, and circuit breakers in eight counties in West Virginia, ten in Kentucky, and six in Ohio. The firm is headed by H. T. Diehl.

Baton Rouge Electrical Supply is now dealer for Allis-Chalmers motors, controls, transformers and circuit breakers in 21 Louisiana parishes. The company is managed by W. F. Evans.

Dick McDonald, of McDonald Electric Company, Inc., Miami, Fla., has been elected president of the newly organized Southeastern Electrical Wholesalers Association, Inc. Looking over the by-laws of the new organization are the newly elected officers of the group, left to right, M. L. (Tiny) Tice, secretary; Mr. McDonald; and Joe Perry, Electric Supply Co., Atlanta, vice-president.

Curtis Introduces New Display Medium

THE INTRODUCTION of "Three Dimension Projection" has been announced by Curtis Lighting, Inc., who say it is the newest and most effective method of telling its lighting story to distributors, contractors, architects, engineers, and utilities.

For over a year, Curtis has used in its sales work a modern adaptation of the old-fashioned stereoscope. The new type viewer is a compact device, internally lighted, in which are inserted specially photographed and mounted Kodachrome transparencies. The effect of viewing a three-dimension color transparency of a lighting installation is similar to viewing the actual room.

With the advent of three dimension projection, installation slides can be seen by more than 30 people at a time instead of the usual one. Showing the entire installation in three dimensions affords an opportunity for the lighting salesmen to call special attention to the importance of room furnishings, color of walls, ceiling and floor coverings, desk tops, etc., in obtaining best results from lighting.

Curtis Lighting will make available to interested groups three-dimension equipment together with installation slides. Complete information can be obtained by writing to F. H. Gallot, sales promotion manager, Curtis Lighting, Inc., Chicago 38, Ill.

New Association For Wholesalers

TO RAISE the standard of business practices among electrical wholesalers, a group of electrical wholesale executives met in Atlanta, recently, to organize an association for this purpose.

The official name of the new group, as given in the by-laws adopted at the first meeting, is the Southeastern Electrical Wholesalers Association, Inc. Membership in the Association is open to electrical wholesalers in Alabama, Florida, Georgia, No. and So. Carolina and Tennessee.

Dick McDonald, of McDonald Electric Company, Inc., Miami, has been elected president of the newly organized association. Other officers are Joe Perry, Electric Supply Co., Atlanta, vice-president, and M. L. (Tiny) Tice, Atlanta, secretary.

The next meeting of the Association will be held April 14 at the Atlanta Biltmore Hotel.

SEMRC OFFICERS—A new slate of officers is guiding the activities of the Southeastern Electrical Manufacturers' Representatives Club, of Atlanta, for 1950. H. K. (Pete) Dewees, of H. W. Dewees Co., heads the group as president. Left to right are S. T. Walz, Square D Co., new vice-president; Mr. Dewees; and Edgar E. Dawes, Edgar E. Dawes Co., new secretary-treasurer.

Greensboro Warehouse Opened by Loyd

A WAREHOUSE has just been opened in Greensboro, N. C., by Ernest T. Loyd, manufacturers' representative with headquarters in Atlanta, to provide better and faster service for the electrical accounts in that part of his southeastern territory. It is planned that complete stocks of lines represented by Mr. Loyd will be maintained there, including electrical porcelain manufactured by Illinois Electric Porcelain Co.

NASHVILLE SCHOOLS *Choose* GIBSON

THE HIGHLANDER 5200

Beauty at low unit cost, streamlined louvers. Stamped from 20 gauge cold rolled steel or heavier. Efficiency nearly 80% by E. T. L. analysis. Available in 430 MA 48" and 96" lengths.

THE BILTMORE 5500

85.5% efficient. Stamped from 20 gauge cold rolled steel or heavier. Hot-bonded synthetic enamel finish and only finest E.T.L. approved components used. Available in 430 MA 48" and 96" lengths.

An installation of the Gibson 5500 Biltmore in the library of West End High School, one of Nashville schools using nearly 7,000 Gibson fluorescent fixtures.

Progressive planning and investment in the health and education of our youth demands the best. Gibson features two excellent fixtures for schools. The Biltmore 5500 is the most efficient louvered fixture on the market today—85.5% by Electrical Testing Laboratory analysis.

This attractive fixture was especially designed for installation in schools and public buildings where high intensity lighting at low cost is essential. Where additional beauty is desired at low unit cost, the Highlander 5200 fills all requirements. It is finished in natural satin aluminum with white enamel louvers having translucent Polystyrene side panels.

Planned lighting with quality fixtures is the key to visual health. As a free service, lighting engineers of Gibson Manufacturing Co. will lay out lighting plans to fill the specific needs of school buildings, without cost or obligation to you. Write us today about Gibson Planned Lighting.

Newsweek
ADVERTISED IN
TIME
THE WEEKLY NEWSMAGAZINE

GIBSON *Manufacturing Co.*

1919 PIEDMONT CIRCLE, N. E. ATLANTA, GEORGIA

Rome Cable Stocks In Atlanta Now

WAREHOUSE FACILITIES have been provided by Rome Cable Corp., of Rome, N. Y., for a complete line of wires and cables in a new building of brick construction especially designed for quick delivery service, at 156 Simpson St., N. W., Atlanta, Ga. The company's Atlanta district sales office will also be located in the new building.

Both warehouse and sales office will be in charge of C. J. McMurry, district sales manager. F. D. Rucker will serve as operating manager of the warehouse.

Electrical Contractors Form New Association

A GROUP OF 11 independent electrical contractors of Tulsa, Okla., have recently banded together to form the Independent Electrical Contractors Association for reasons of business, political, and social interests.

According to Paul Pitcock, of the Ajax Electric Co., who has just been elected the organization's first president, they have not yet appointed any committees. However, since all the non-union contractors in town are signed, or have pledged to sign, they will have plenty of men to do any necessary association work, stated Mr. Pitcock.

The members estimate that the open-shop contractors of Tulsa do probably about 90 per cent of the residential, and more than half of the smaller commercial jobs in the city. They are hoping by organization to get equal rights or at least greater recognition of non-union shops in job inspection and city examining board matters. Since the board is appointed by the mayor of the city, on recommendation of the city council or other political officials, they hope to have representation on it. They have never had a representative because they have had no organization to work for one, Mr. Pitcock said.

Other purposes in forming the organization are to improve business contacts both within the Association and with their employees, and to improve or keep to highest standards their own workmanship through interchange of ideas.

Robert Roark, of Allied Electric Company, is secretary of the new IECA.

Warehouse Expansion For Slocum Electric

A WAREHOUSE expansion program for 1950 has been announced by the Slocum Electric Co., of Dallas, Texas. This co-partnership, operating a wholesale electrical business, has grown from a sales force of two in 1945 to its present organization of 25. Owners of the firm are Joe and Hugh Slocum, brothers.

The Slocum warehouse and office building is located on a one acre tract in the Trinity Industrial District of Dallas. The plant has 10,000 square feet of floor space, a 60-foot loading dock, railroad siding, large parking area, and ample room for the warehouse expansion program planned for this year.

Joe Slocum had over 30 years' electrical and business experience in Dallas before organizing the company in 1945. Hugh Slocum also has had considerable electrical experience and was associated with a refinery company for 16 years.

Slocum distributes a number of nationally known electrical products and equipment. A 172-page catalog of electrical equipment has been distributed to the electrical trade in the Southwest, with a new issue announced for March.

Selling Will Avoid Power Load Shortage

AGGRESSIVE SALESMANSHIP on the part of the electric utilities is needed to meet the growing reserves in power-producing capacity, according to C. H. Lang, vice-president and manager of sales of General Electric's Apparatus Department.

Speaking before the Missouri Valley Power Sales Conference in Kansas City, recently, Mr. Lang said that the power shortage "spook" which has been hovering over the electrical industry for the past five years never really materialized. Instead, he said, the utility companies are faced with an impending shortage of load which can be dealt with only through increased "sales power."

Quoting from various sources, Lang emphasized the general attitude of confidence and faith in the future that is prevalent among our business leaders today in contrast to the nervous trepidation of last year. He pointed to the multi-million-dollar expansion program of the power industry which acted as a stabilizing influence during the "boom-bust" talk of a few months ago.

"The electrical industry," he said, "by its very nature, is a stable, long-term industry. It has a fundamental responsibility to keep its eyes on the decades, not the days. In making decisions as to capital investments, manufacturing and generating capacity, sales programs, and so on, we in the electrical industry, while remaining sensitive to the business currents, must make ourselves immune to the scatheads which dot the economic landscape."

"None of us," Lang continued, "expects 1950 to be a bed of roses. Because a thing of fundamental importance has happened in the past year. Not an economic revolution. Not the dawn of a new era. Simply—a return to our normal competitive economy."

As he has on previous occasions, Mr. Lang stated that this return to normalcy gives the electrical industry's sales force a heightened responsibility. "We should not say that we are in a "buyer's market," he said, but rather a "salesman's market," a term he used to describe our present

(Continued on page 47)

Approved by UNDERWRITERS LABORATORIES

YES, the PENN-UNION Connector TAKES THEM ALL-

LARGER SURFACES for the WRENCHES ~ a good-sized HEX Top and Bottom

The men who use connectors appreciate the *better design* of the Penn-Union - - especially when they have to make a splice in close quarters, or any unhandy location.

Better Design is a feature of the entire Penn-Union line, which includes Tees and Taps, Straight Connectors, Terminals, Grounding Clamps, and many more fittings . . . every one thoroughly dependable, mechanically and electrically. *Preferred by leading users,* who have found that "Penn-Union" on a fitting is their best guarantee of unfailing service.

Far More in use than any other

PENN UNION ELECTRIC CORPORATION, Erie, Pa.

SOLD BY LEADING WHOLESALERS. ENLARGED WAREHOUSE STOCKS NOW CARRIED BY —

BEN K. PATTON
Gulf Sales Agency
504 Delta Bldg.
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Moving to Larger Quarters
L. MORRIS LANDERS
624 Spring St., N. W.
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WALTER J. HUEMMER
Dallas Transfer & Term. Warch. Bldg.
Dallas, Texas

PENN-UNION

FOR ELECTRICAL & GENERAL PURPOSE JOBS

● Security Tape will never let you down. Its adhesive compound is not just sticky, but strong and rubbery. To handle tougher jobs, the fabric is unusually high in tensile strength. Security has no pinholes to cause leaks. Straight-tearing, non-ravelling.

ASK YOUR WHOLESALER FOR SECURITY

A QUALITY PRODUCT OF

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

(Continued from page 44)
economic opportunity. It is the salesman, he explained, and not the buyer, who can and should exert the most constructive influence upon our free enterprise life.

In conclusion, he claimed that the electrical industry has the capacity to produce, has the sales tools available to sell this capacity, and that the price is right. Indeed, the kilowatt hour represents the greatest bargain in the American market today, he said.

News of the Southern Section, IAEI

Alabama Chapter Organized

Reported by A. M. Miller

AN ORGANIZATIONAL meeting of the Alabama Chapter of IAEI was held in the Tutwiler Hotel, Birmingham, February 18, with an attendance of twenty.

The Honorable W. Cooper Greene, mayor of the City of Birmingham, extended a hearty welcome and addressed the meeting on the advantages of associating with others in similar occupations. Having learned the objectives of this Association, as president of the United States Conference of Mayors, he expressed confidence in the movement and willingness to cooperate in activities of an Alabama Chapter.

R. E. Ward, chief electrical inspector of the State of Tennessee, outlined the regulations and activities of his department and discussed many phases of enforcement problems. In the discussion following Mr. Ward's talk, an active interest was aroused for a similar movement for Alabama and plans discussed for enlarging chapter membership.

C. M. Baker, city electrician and chief electrical inspector of Birmingham, actively participated in discussions on association objectives and programs for future meetings. He related incidents of acquaintanceship with many old timers and expressed the hope of renewal at future meetings.

The inimitable Fred Oliver, the Roving Ambassador, enlivened the meeting with his usual display of wit. Fred became the second "additional" member (he thought he was first but Secretary Smith beat him to it by three days).

A. M. Miller, secretary Southern Section, IAEI, served as acting chairman pending formal election of officers and circulated a petition for a charter from the International Association which was subsequently signed by eight active members. Chapter by-laws were adopted and the following elected to serve as officers: chairman, H. A. Whisenant, Bessemer, Ala.; vice-chairman, C. M. Baker, Birmingham, Ala.; and secy.-treas., G. M. Ross, Sheffield, Ala.

The executive committee in addition to the officers will include B. A. Blakey, Jr., Montgomery, Ala., Hayden Childers, Birmingham, Ala., A. A. Coffin, Mobile, Ala., W. A. Cochran, Jr., Birmingham, Ala., and W. D. Ross, Florence, Ala.

Chairman Whisenant presided over the meeting from the time of his election and appointed the following members as a membership committee: chairman, W. R. Stell, of Russellville, A. A. Coffin, of Mobile, E. D. Gaddens, of Birmingham, F. S. McClanahan, of Hartselle, W. D. Ross, of Florence, and N. F. Ussery, of Montgomery.

Secretary Miller was requested to expedite the petition for a charter and to later advise the officers of non-conflicting dates from which the next meeting may be selected; also to use his persuasive powers on the International Secretary to attend the meeting when selected and to present the charter. He promised his best efforts but explained the many handicaps under which Secretary Smith operated and that it was physically impossible to personally appear at all meetings.

Chairman Ward, of the Tennessee Chapter, extended an invitation to all members in Alabama to attend the next meeting of his Chapter, the date to be later announced in the *News Bulletin*.

George Welman Honored by IAEI

AT A WELL ATTENDED dinner meeting held in New Orleans recently, an Honorary Life Membership in the International Association of Electrical Inspectors was presented to George Welman, one of the best known electrical men of New Orleans.

Mr. Welman has for many years been head of the Electrical Inspection Department of the Louisiana Fire Prevention Bureau. The presentation of the certificate was made by C. C. Walther, president of the New Orleans Chamber of Commerce. The general chairman of the meeting was B. Z. Segall. The following served as members of the arrangement committee: A. J. Bech, J. Snakenberg, G. Kraus, H. Sale and F. Stern, with C. V. Forbes as secretary.

George Welman, of New Orleans, receives honorary life membership in the IAEI from C. C. Walther.

A number of prominent "one minute" speakers, representing various electrical groups spoke, lauding Mr. Welman's high standing in his profession—and the fine work he has done for the electrical industry. Out-of-town messages were read from various electrical organizations in many of the larger cities throughout the United States.

C. M. Jones Accepts Canadian Position

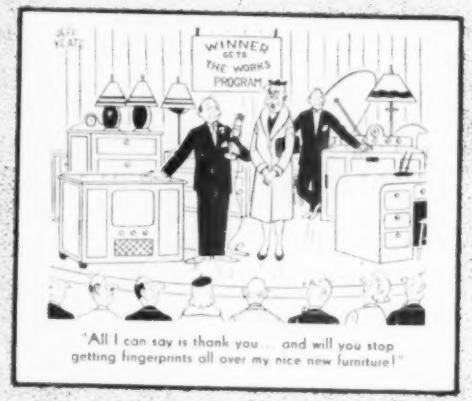
AS OF MARCH 1, 1950, C. M. (Casey) Jones, Southeastern representative of Underwriters Laboratories, Inc., will make his residence and headquarters in Toronto, Canada, where he will have an important part in establishing and managing the Underwriters Laboratories of Canada, a new organization to be entirely independent of Underwriters Laboratories, Inc., of U. S. A. Associated with Mr. Jones in his new work will be Ed Tabisz, who has been serving Underwriters Laboratories in New York City. Both men will have the title of assistant secretaries of the new organization.

Mr. Jones has made his headquarters in Atlanta for a number of years and has served the Southern Section, IAEI, recently, as assistant secretary. He has been secretary during the past year of the Georgia Section, IAEI.

Your Work Can Wait!

"And try to get your mind off your health, the international situation, your domestic troubles, taxes, the weather, business, and the high cost of living."

"How do they feel?"



"All I can say is thank you . . . and will you stop getting fingerprints all over my nice new furniture!"

"Would you please skip in and out of the directors' room a couple of times this afternoon, so we'll have something to discuss?"

"Confound it, Davis, must you work so hard around here? It's beginning to show in your poor bowling average on the company team!"

Here's how fast we cut "Red Tape"

Five minutes after your order reaches us — by mail, telegraph or telephone — IT IS ROLLING.

Either it is rolling to our Shipping Department from stock in our Warehouse, or it is rolling into production in our Manufacturing Department.

You will get a firm shipping date when you place your order — and the order will be shipped on that date. We make 48-hour delivery, by our own trucks, to the Southeastern states.

SOUTHERN ELECTRICAL CORPORATION CAN SAVE YOU TIME AND MONEY

OUR ACSR CONDUCTORS are built to highest specifications, laboratory-tested, and are immediately available in 4 ga. to 2,000,000 cir. mils.

BARE COPPER WIRES AND CABLES — A full range of sizes from 14 ga. solid to standard strandings up to 2,000,000 cir. mils available for prompt shipment.

GALVANIZED STEEL STRAND, highest quality, manufactured and stored in all grades, sizes and construction, shipped in coils or reels.

ACSR ACCESSORIES—We maintain large stocks for immediate shipment with Conductors. A complete assortment of sizes on Armor Rods, straight and preformed; Twisting Joints, Tie Wires, Flat Aluminum Tapes, Clips, Clamps and Dead Ends is available.

OUR SERVICE HAS NO COMPETITION

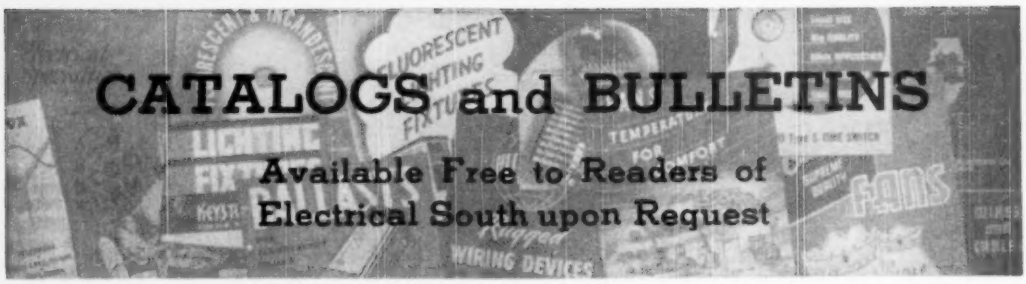
PHONE 7-3325

WRITE P. O. BOX 989

IN THE HEART OF THE SOUTH

Southern Electrical Corporation

CHATTANOOGA, TENNESSEE



CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on page 100)

250—Electrical Apparatus. The Trumbull Electric Mfg. Co., Plainville, Conn., has recently issued a condensed general catalog, "Trumbullist", which gives complete information on electrical control apparatus.

251—Infrared Lamps. An 8-page folder, "Drying Problems Made Easy", listing the advantages of the Dritherm Carbon Lamps is available from the North American Electric Lamp Company, 1041 Tyler St., St. Louis, Mo. This folder includes a complete description of how Infrared Radiant Energy with Nalco Dritherm Carbon Lamps provides fast, effective heat.

255—Paragon Timers. A folder of up-to-date bulletins on available timers and their prices is offered by the Paragon Electric Company Two Rivers, Wisconsin, manufacturers of electrical equipment. Such items as industrial timers, self-lubricating time switches, and many others are described and illustrated in this folder.

257—Lighting Equipment. This revised 8-page condensed catalog, No. 945, describes the company's line of engineered lighting and control equipment for schools, theaters, hospitals, churches, and stores, etc. Specifications, engineering details and list prices are included. This catalog is available from Hub Electric Co., Department "ES", 2219 West Grand Ave., Chicago 12, Illinois.

259—Electrical Equipment. The latest edition of the Federalog has just been issued by Federal Electric Products Co., 60 Paris St., Newark 5, N. J. This profusely illustrated catalog contains complete details of Federal's newest motor controls, safety switches, service equipment, circuit breakers, panelboards, switchboards, and busduct.

261—Electric Motor Parts. A 112-page illustrated catalog of electric motor and controller parts is now available from The Reading Electric Company, Inc., 102 Park Row, New York 18, N. Y. This bulletin lists everything used by the electric motor repair shop.

262—Fluorescent Lighting. Smithcraft Lighting Division, Chelsea 50, Mass., has just issued an interesting series of specification sheets, each portraying a single Smithcraft fluorescent fixture and providing pertinent technical data to assist engineers, jobbers, contractors and purchasing agents. These sheets are available upon request.

264—Time Switch. Sangamo Electric Co., Springfield, Ill., offers their 4-page Bulletin 1050 fully describing the new, exceptionally small Type S Time Switch.

274—Electrical Devices. Catalog No. 38, issued by the Efficiency Electric Co., East Palestine, Ohio, contains a listing of the electrical devices for conduit, wire, and cable suspension manufactured by this company.

276—Lighting Fixtures. A complete line of decorative residential lighting fixtures as well as an outstanding commercial fluorescent series are described in Catalogs No. 48 (Residential) and No. VF-48 (Commercial). Copies may be obtained from John C. Virden Co., 5905-6103 Longfellow Ave., Cleveland, Ohio.

280—Electrical Maintenance. Available immediately is a new 48-page reference and instruction booklet issued by the Anaconda Wire and Cable Co., 25 Broadway, New York 4, N. Y. Entitled "Wire Ahead," this book covers a variety of problems encountered in electrical system maintenance.

281—Wiring Connectors. A complete new catalog on various new wiring connectors has been issued by the Jasper Blackburn Products Corp., St. Louis. The catalog also contains much detailed information not heretofore available to users.

282—Cords and Cables. The Simplex Wire & Cable Co., has just issued an attractive 68-page catalog giving descriptions of the Simplex-Tirex portable cords and cables. Complete information on splicing is also included, as well as a pictorial section on applications. It may be obtained from 79 Sidney St., Cambridge 39, Mass.

284—Electrical Specialties. A catalog, No. 43, showing their complete line of electrical specialties is available from McGill Mfg. Co., Inc., Box 650, Valparaiso, Ind. Included is descriptive data on the many sizes and types of Levolier switches and McGill portable and vaporproof lamp guards.

286—Porcelain Insulators. A loose-leaf catalog of porcelain insulators and pole line hardware is available from Illinois Electric Porcelain Co., Macomb, Illinois. In addition to the pages of product specifications, the catalog contains a special section of useful tables.

287—Condensed Lighting Catalog. This 8-page descriptive bulletin issued by Pittsburgh Reflector Co., 450 Oliver Bldg., Pittsburgh 22, Pa., describes in detail the most popular items in the Pittsburgh line of fluorescent and incandescent lighting equipment. Each item is fully illustrated and cataloged, and many are accompanied by installation drawings.

290—Receptacles, Plugs, and Connectors. Russell & Stoll Co., Inc., 125 Barclay St., N. Y., has released a bulletin No. EL-4-46, describing the new Ever-Lok receptacles, plugs and cord connectors for 30 amperes, 440 volts, a-c. Typical uses are for heavy duty industrial purposes.

296—Building Wire. A fully illustrated 48-page booklet called "Hazard Building Wires" is now available from the Hazard Insulated Wire Works Division of The Okonite Co. The manual contains complete engineering information on the many types of wire and cable required by the building industry. Tables showing dimensions and weights of all cable constructions are included.

ELECTRICAL SOUTH,
806 Peachtree St., NE — **March, 1950**
Atlanta 5, Ga.

Gentlemen:

Please send me bulletins indicated below.

No...... **No.**..... **No.**..... **No.**..... **No.**.....
(Print Plainly)

Name..... **Title**.....

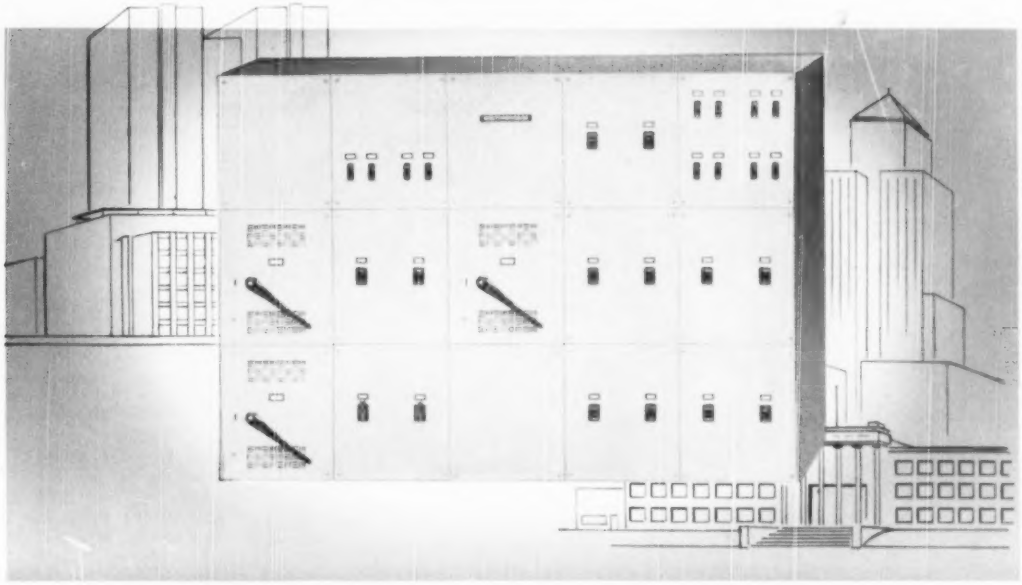
Company.....

Address.....

City & State.....

YOU CAN BE **SURE**.. IF IT'S

Westinghouse



New *STANDARDIZED* Building-type Switchboards

Cut Planning Time

Switchboard planning for offices and other commercial-type buildings is greatly simplified with the NEW Westinghouse *Standardized* Building-type Switchboard.

Unitized construction eliminates special design problems . . . yet their complete flexibility gives you all the advantages of "custom built" units.

Factory-assembled, wired and tested, they may be shipped as a single unit and quickly placed in service. However, if desired, they can be shipped as individual units and quickly reassembled on the job.

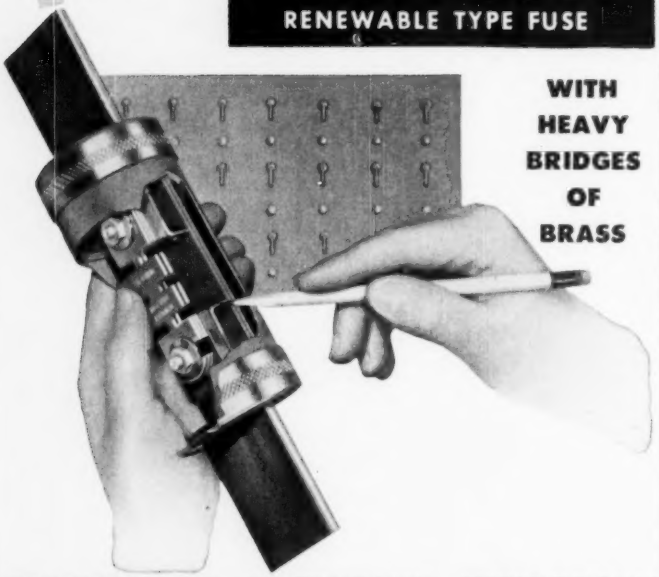
They are specifically designed to feature low-cost circuit breaker protection by means of Westinghouse nofuze "De-ion" type AB circuit breakers for ratings through 600 amperes. For ratings above 600 amps, Westinghouse type DA breakers are used. Get the complete story. Call your nearest Westinghouse office or write for D. B. 30-990, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-40380

Westinghouse

SWITCHBOARDS

NEW

Monarch
HEAVY DUTY
RENEWABLE TYPE FUSE



WITH HEAVY BRIDGES OF BRASS

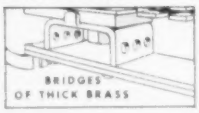
DESIGNED TO WITHSTAND TEMPORARY EXTRA HEAVY OVERLOADS

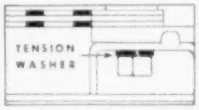
Approved by Underwriters Laboratory

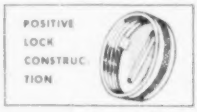
Cool . . Truly Aligned . . Maximum Use of Brass . . . Adding up to Lower Power Waste Than Ever Before! And Here's How!

This new heavy duty fuse incorporates many time-tested Monarch features. The newest, — thick brass bridges widely separating the terminals from the fiber bar and made with ventilating holes — allow ***maximum dissipation of any internal heat.***

The Monarch method of locking these bridges securely to the terminals and fiber bar, together with Monarch's positive lock construction and compressed tension washers, insures ***permanent true alignment.***







. . . IMPROVED SERVICE PER DOLLAR INVESTED

SPECIFY Monarch FOR SUPERIOR FUSErvice

MONARCH FUSE CO., LTD.
118 E. First Street Jamestown, N. Y.

Cain Lighting At New Location

Offices, display room and warehousing facilities of Cain Lighting and Supplies, Inc., an electrical wholesale firm, have been moved to a new location at 1080 Katherwood Drive, S. W., Atlanta. The display room of the company includes over 400 commercial and residential lighting fixtures, reports Robert D. Carlen, sales manager.

Lester Cain, president of Cain Lighting and Supplies, announced recently that the electrical contracting business which he formerly operated under the name of Lester Cain, Inc., had ceased operation as of February 1, 1950.

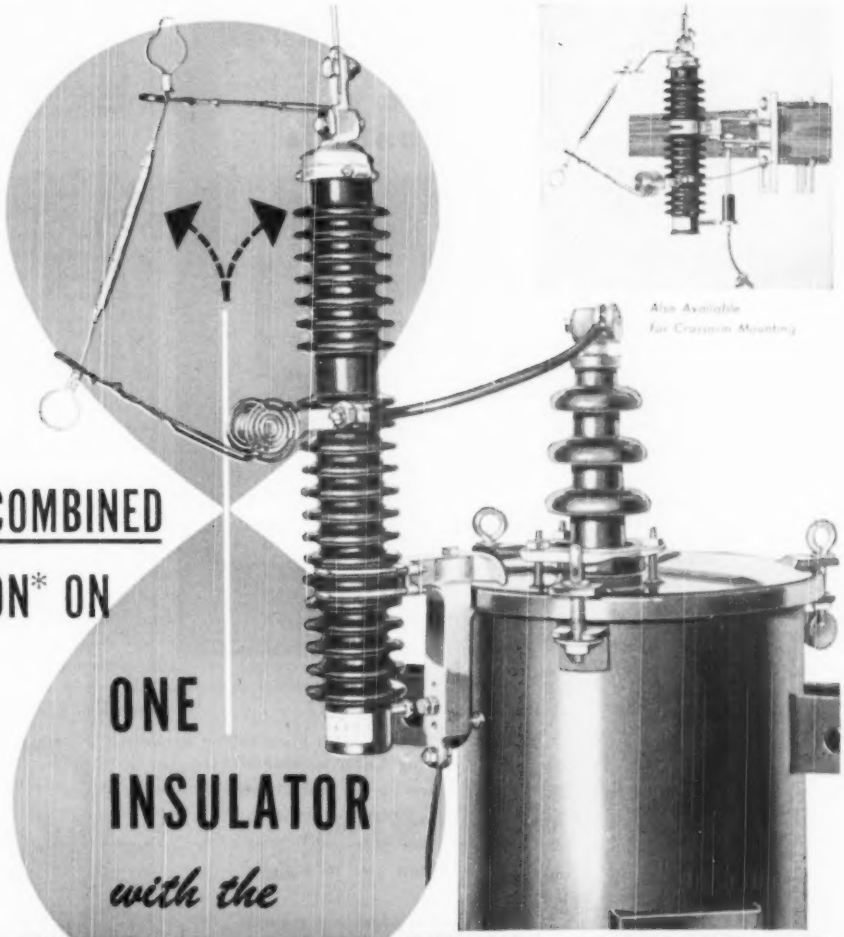
Demand for Electric Power Seen Rising

Demand and facilities for delivering electric power are expected to be on the increase for at least 30 years before leveling off, according to W. D. Kyle, Jr., of Milwaukee, president of Line Material Co.

Mr. Kyle, in Atlanta recently to attend a three-day regional sales meeting of Line Material representatives from the South Atlantic, South Central, and Southwestern Division of the company, stated that with this prospect in view, business for the entire electrical industry should be good for some time to come.

Line Material is a division of McGraw Electric Co. It manufactures electrical distribution and high-ten-

Officials of the Line Material Company in Atlanta recently for a regional sales meeting included, left to right, D. H. Swanson, vice-president in charge of marketing and sales; R. C. Hunt, division manager; and W. D. Kyle, Jr., president of Line Material.



Also Available
for Crossarm Mounting

YOU GET COMBINED PROTECTION* ON

ONE INSULATOR

with the

KEARNEY QRC

(Combined Fuse Cutout and Lightning Arrester)

*Full lightning, overload and short-circuit protection on *one insulator* enables you to modernize your present transformer protection for only $17.22. And with the high surge capacity Type X fuse you get an added protection . . . against excess outages.

Protect your transformer investment the modern way—write today for complete technical data.

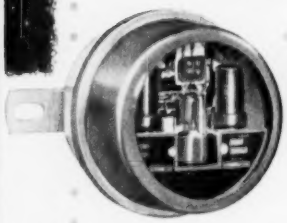
JAMES R. KEARNEY CORPORATION
4224-42 Clayton Ave., St. Louis 10, Mo.
Canadian Plant: Guelph, Ontario

JAMES R. KEARNEY CORPORATION ST. LOUIS, MO.

Better Construction—*SAFER* Maintenance

Fisher-Pierce Photoelectric Controls

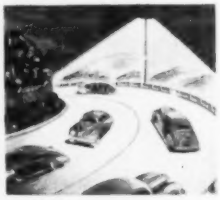
CUT STREET LIGHTING COSTS



Fisher-Pierce Photoelectric lighting Controls have a continuous record of low-cost service by more than 600 electric utilities in more than 17,000 installations.

Fisher-Pierce should be on *your* "Standards" list. Controls for examination and test can be shipped immediately from stock.

Approved by street lighting engineers and maintenance men throughout the world, Fisher-Pierce units offer a simplified Photoelectric relay for control of multiple or series street lighting systems. Fisher-Pierce controls give you long tube life (20,000 hours or more), easy servicing, (plug-in chassis construction), *no resetting after power interruptions.* In other words, exceptionally *low maintenance costs.*



Models available for direct-connected lamp loads up to 3000 watts, for pilot-wire relay systems, and oil-switch controls for series systems.

Ask for Bulletin 63300

The FISHER-PIERCE COMPANY, INC.
59 CEYLON ST., BOSTON 21, MASSACHUSETTS

sion equipment, street and airport lighting equipment, and other such items. The company became affiliated with McGraw last year, and maintains a manufacturing plant in Birmingham, Ala. In addition to the heavy equipment manufactured for power companies, the southern plant will go into production soon on its first consumer goods product, window fans, Mr. Kyle said.

The company also has offices in Atlanta and a new warehousing point on Boulevard, N. E. R. C. Hunt is division manager, and he and Mr. Kyle and D. H. Swanson, vice-president in charge of marketing and sales, conducted the meeting, attended by about 60 persons.

Electrical Association Elects Lackey President

The Electrical Association of New Orleans has elected Harry B. Lackey to be its president for this year. Mr. Lackey presided over the first meeting of the newly elected Executive Committee of the Electrical Association held recently.

Harry B. Lackey, left, newly elected president of the Electrical Association of New Orleans, is shown being congratulated by retiring president, C. C. Walther. Mr. Lackey is district manager of the Southern Bell Telephone and Telegraph Company in New Orleans.

Other officers for 1950 are: Hutson Colcock, executive vice-president; R. F. Wright, vice-president for wholesalers, utilities, and manufacturers; George F. Sims, vice-president for refrigeration; Carl Nussbaum, vice-president for electrical contractors; S. F. Fontenelle, vice-president for air conditioning and ventilation; Frank H. Blue, Sr., vice-president for radio and television; W. E. Clement, director of publicity; E. H. Mowen, secretary; and F. W. Tufts, treasurer.

Because IT *MUST* BE RIGHT

You can count on

TRIANGLE

TYPE RLJFJ

PARKWAY CABLE

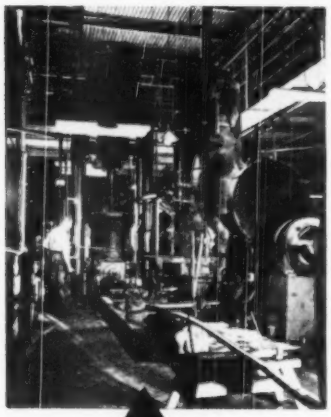
You can see for yourself that it takes massive machines to turn out lead covered and high voltage cables to meet today's rigid specifications. But machines alone cannot do the job: behind them must be men of many years' experience in making cable — in making it *right*.

At Triangle's efficient New Brunswick plant you will find modern machines manned by true craftsmen, checked by rigorous inspection, backed by unceasing development and research. To you, this means the finest in parkway...power...varnished cambric ...lead covered cables that can be constructed — today's top value in wire and cable.

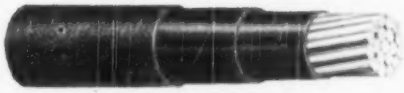
Whether your needs are for standard cables built to I.P.C.E.A. recommendations, or for special cables tailor made to your own specifications, you will find Triangle engineers glad to consult with you.

TYPE VML

LEAD COVERED CABLE



Protection Plus—This huge press produces a smooth, uniform sheath of virgin lead for utmost cable protection.



TYPE V

VARNISHED CAMBRIC CABLE

The Trade Mark Of Top Value

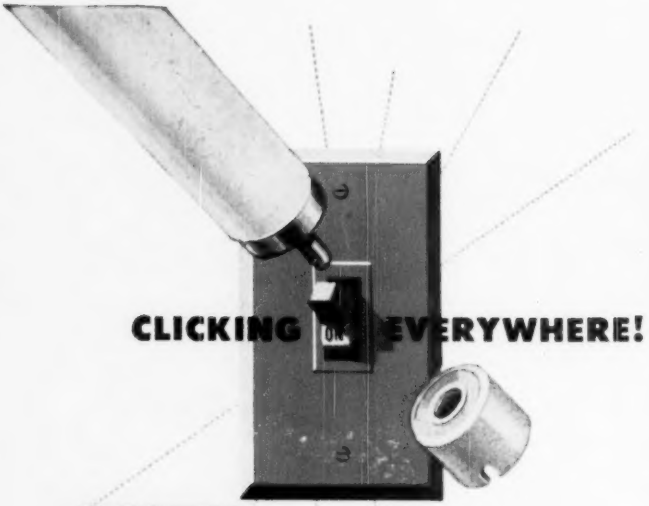
TRIANGLE CONDUIT & CABLE CO., INC.

1906 JERSEY AVENUE • NEW BRUNSWICK, NEW JERSEY

IT *MUST* BE RIGHT!

Catalog No. 500 Gives Full Details Of the Complete Triangle Line:

"Glezen" & "Trieseal" Building Wire • "Trisen" Control Wire • "Adaptal" General Purpose Wire • "Triex" Non-Metallic Sheathed Cable • "Trioprene" Trench Cable • Service Entrance, Parkway, Power & Varnished Cambric Cables • "Tristeel" Flexible, Thin Wall & Rigid Steel Conduit



CLICKING EVERYWHERE!

GUTH 4 foot SLIMLINE

+ light-at-the-click-of-the-switch!

+ No waiting
+ No starters or starter troubles
+ Lowest maintenance in fluorescent history
+ Easy-to-handle – one man can get it through a door
+ Available in every two and four 40W fluorescent fixture in the entire GUTH line!

Guth LIGHTING

FOR FULL DETAILS, CALL YOUR NEAREST GUTH RESIDENT ENGINEER OR WRITE:

202

THE EDWIN F. GUTH COMPANY / ST. LOUIS 3, MISSOURI

Leaders in Lighting Since 1902

GRAYBAR EXEC RETIRES — Y. Preston King, manager of the Charlotte branch, Graybar Electric Co., retired recently after 45 years of service in various capacities with the company. His many friends in the Charlotte Electrical League honored him upon this occasion with a special dinner meeting at the Red Fez Club, in Charlotte, N. C., recently. At the party, there was a representative from each of the various organizations of the electrical industry of Charlotte who followed one another on the program with a lot of nice things to say in behalf of Mr. King. Climax of the meeting was the presentation by Glenn Park, left, to Mr. King of a handsome shotgun on behalf of the Charlotte Manufacturers and Agents Representatives Club.

Classroom Lighting Featured in Booklet

A BOOKLET by Durell Boyd Harmon, entitled "The Co-Ordinated Classroom," is now available from the F. W. Wakefield Brass Co., Vermilion, Ohio. Dr. Harmon was formerly director, Division of School Service, Texas State Department of Health, and is now a consulting educationalist for school systems and consultant for architects and makers of school equipment. The book packs in detail into its 52 pages (8½ x 11) Dr. Harmon's conclusions as to the classroom physical environments suitable or unsuitable to the proper physical, mental, and temperamental development of the growing child.

In addition to other phases of the subject, Dr. Harmon covers theory and practice of seeing, and how the practice is influenced environmentally by light control (day and artificial). The section on decoration is almost a text on reflectances of walls, ceilings, and working surfaces, color, and the comparative brightness which result from various combinations.

Coming!

Revolutionary development that will

ROCK the INDUSTRY

FEDERAL NOARK

Federal Electric Products Company, 50 Paris Street, Newark 5, N. J.

DATES AHEAD

Third Annual Conference for Protective Relay Engineers, March 20-22, 1950, Department of Electrical Engineering, A. & M. College of Texas, College Station, Texas. For further information write L. M. Haupt, Conference Chairman.

Sixteenth Annual Sales Conference, Edison Electric Institute, Edgewater Beach Hotel, Chicago, Ill., April 4-6, 1950.

***Electrical Institute Meeting, Board of Examiners of Electrical Contractors of Raleigh, N. C., Hotel Carolina, Raleigh, N. C., April 11-12, 1950.**

National Appliance Service Association, Inc., general meeting and election of officers, Detroit, Mich., April 12-14, 1950.

***Annual Conference of the Southeastern Electric Exchange, The Greenbrier Hotel, White Sulphur Springs, W. Va., April 12-14, 1950.**

Appliance Parts Jobbers Association, Inc., general meeting and election of officers, Hollenden Hotel, Cleveland, Ohio, April 20-22, 1950.

Annual Convention, Oklahoma Utilities Association, Biltmore Hotel, Oklahoma City, Okla., May 4-5, 1950.

Seventeenth Annual Meeting, Virginia Chapter, International Association of Electrical Inspectors, Portsmouth Hotel, Portsmouth, Va., June 1-2, 1950.

National Association of Electrical Distributors, Annual Convention, Convention Hall, Atlantic City, N. J., June 12-16, 1950.

American Institute of Electrical Engineers, Summer General Meeting, Pasadena, Calif., June 12-16, 1950.

***Illuminating Engineering Society, National Technical Conference, Hotel Huntington, Pasadena, Los Angeles, Calif., August 21-25, 1950.**

***Fifteenth Annual Conference, International Association of Electrical Leagues, Copley Plaza Hotel, Boston, Mass., October 11-14, 1950.**

Twenty-second Annual Meeting, Southern Section, International Association of Electrical Inspectors, Sheraton Plaza Hotel, Daytona Beach, Fla., October 16-18, 1950.

***National Electrical Manufacturers Association, Chalfonte-Haddon Hall, Atlantic City, N. J., November 13-17, 1950.**

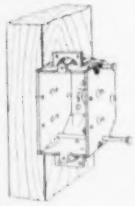
***Asterisk indicates meetings announced for the first time in this column.**

The Williams Line

WIRING PRODUCTS

WILLIAMS

NAIL MOUNTING FEATURE



SWITCH BOXES

WLCAEG

(available "less ears", "less clamps", "less ears and clamps")

WLCBG

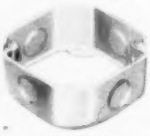
4" OUTLET BOXES

COVERS

BOX SUPPORTS

W4OLC

W4O½G



W4OE½G

SERVING THE MIDWEST AND THE SOUTH

H. E. WILLIAMS PRODUCTS CO. • Carthage, Mo.

NAMES IN THE NEWS

Tomlinson Fort, manager of apparatus sales for the **Westinghouse Electric Corporation**, has announced the appointment of **O. O. Rae** as manager of the company's Southeastern District. Mr. Rae will succeed **Thomas Fuller**, who is retiring after 44 years with the company.

Formerly central station manager for the Southeastern District, Mr.

O. O. Rae

Rae has served as assistant district manager for the past two months.

Both Mr. Rae and Mr. Fuller have been associated with Westinghouse for their entire business careers—Mr. Rae since 1919 and Mr. Fuller since 1906. Both are also graduates of Georgia Institute of Technology.

Mr. Fuller joined the Westinghouse Graduate Student Training Course following graduation from college and for several years worked as a sales engineer in the Atlanta and Charlotte, N. C., offices of the company. He held numerous positions in the Atlanta organization before becoming manager of the Charlotte office in 1924. He was appointed Southeastern District manager in 1929.

Mr. Rae joined Westinghouse following his graduation from Georgia Tech in 1919. After completing his graduate student training, he was assigned to the company's merchandise sales department. In 1922, he was transferred to the central station sales organization of the Southeastern District with headquarters in Atlanta. Mr. Rae was promoted to central station manager of the district in 1934.

•

George T. Marchmont, Graybar Electric Company, is the new president of the Dallas Electric Club, succeeding T. D. Thomas.

. . . its easier to *Sell*

. . . its easier to *Install*

the Curtis STORE-LITER

FOR EIGHT AND FOUR FOOT SLIMLINE LAMPS

The Curtis "Store-Liter" enables you to offer the retail merchant a lighting unit which costs him less for installation . . . less for maintenance . . . and less for operation. It is designed to utilize, with highest efficiency, the many advantages of the new T-12, 96-inch slimline lamps.

High Transmission plastic side panels provide high levels of quality illumination on merchandise whether displayed on vertical racks or in horizontal cases. Selling qualities are easily seen . . . selection of merchandise is made easy for the customer.

Functional open design of this new luminaire provides for ease of maintenance. Relamping is accomplished without disturbing side panels. For thorough cleaning, side panels are easily disengaged in same manner as the lamps (push-pull principle). On your next retail store lighting job, recommend and install the Curtis "Store-Liter"...a profitable luminaire for you and your customer.

The new sliding clamp hanger makes installation of "Store-Liter" luminaire an economical pleasure.

Sliding clamp hangers are first secured to ceiling at desired locations. Completely assembled luminaires are then raised and fastened into clamps by tightening a simple screw. Sliding clamp hanger also permits by-passing building construction obstacles, such as beams, sprinkler heads, etc.

WITH THE CURTIS MAN

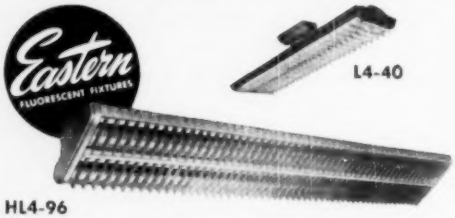
Plan *Lighting*

Full technical details and specifications on the STORE-LITER are illustrated and described in Bulletin Four. Write today for your copy to supplement your Curtis Catalog.

CURTIS

LIGHTING, INC., 6135 W. 65TH ST., CHICAGO 38, ILLINOIS

Pacemakers in FLUORESCENT LIGHTING



HL4-96

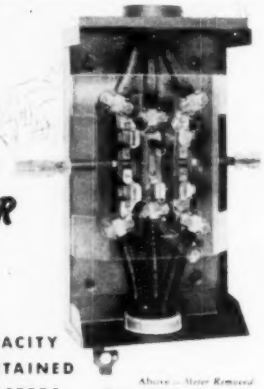
Designed to establish a new standard in fluorescent lighting—to give more smooth, shadowless light for every critical installation—offices, drafting rooms, laboratories, department stores. The new Eastern Slimline Luminaire HL4-96, with 4 hot cathode tubes and 200 milliamp ballasts and the Eastern Louver Luminaire L4-40, with 4 standard fluorescent lamps will give more light at lower cost!

Suitable for individual or continuous mounting, suspended or flush. Hinged louvers make maintenance easy. Can be equipped with top reflector. Approved by Underwriters' Laboratories.

Eastern FIXTURE COMPANY
BOSTON 20, MASSACHUSETTS

REPRESENTED BY—S. L. BAGBY CO.
822 WEST MOREHEAD STREET CHARLOTTE 1, N. C.

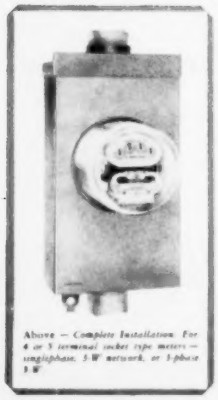
Capacity!



OVER 60 HORSE POWER TO CARRY THE LOAD

200 AMPERES OF SERVICE CAPACITY WITH SELF-CONTAINED SOCKET TYPE METERS

Above — Meter Removed. By-pass clamps complete load circuit during testing or removal of meter.



Above — Complete Installation. For 4 or 5 terminal socket type meters — singlephase, 5-W network, or 3-phase 5-W

Duncan Type H. D.
Heavy Duty Meter Mounting Device

THE TYPE H.D. Heavy Duty Meter Mounting Device provides a compact method of connecting conductors up to 500000 copper, or 250,000 CM aluminum, directly to the terminal blades of a socket-type meter with ease and safety. The H.D. Device requires a minimum of space for metering equipment in its current range. Overall height is 18", width, 9". The H.D. Device is particularly applicable on services above 100 amperes and up to 200 ampere capacity. For complete information send for Bulletin No. 164. DUNCAN ELECTRIC MFG. CO., Lafayette, Indiana.

DUNCAN

LAFAYETTE INDIANA

Other officers are C. M. Mackey, first vice-president; John M. Haggler, second vice-president; Walter C. Blair, secretary; and Tom Owens, treasurer. New members of the executive committee are H. A. White, W. G. Moore, Frank Witten, and W. C. Healey.

•

The Bryant Electric Company announces the appointment of Thomas C. Welsh, Jr., as field representative covering the states of Texas and New Mexico.

Prior to his joining The Bryant Electric Company he served as a sales engineer with the Minneapolis-

Thomas C. Welsh

Honeywell Regulator Company and the Glidden Engineering & Equipment Company.

Mr. Welsh is a native of Texas and received his BS degree in Mechanical Engineering from Texas A & M College.

During his four years in the U. S. Air Forces he served as an Engineering Officer.

•

Verlyn H. Branham, electrical manufacturers' representative, 1053 W. Peachtree St., N. E., Atlanta, has announced the association in the firm

Verlyn H. Branham, Jr.

of his son, **Verlyn H. Branham, Jr.**

Mr. Branham, Jr., is a native Atlantan, and a graduate of Georgia Tech with a B.S. degree in Industrial Management. He was a lieutenant in the Navy Air Force and a fighter pilot in World War II.

The Branhams' activities cover the states of Alabama, Florida, Georgia, and East Tennessee. They represent Hub Electric Company, Moe-Bridges Corp., Ilsco Copper Tube and Products, Inc., R. A. Manning Associates, The Huenefeld Company, and The Ericson Manufacturing Company.

•

Edgar E. Dawes, president of **Edgar E. Dawes & Co.**, 401-402 Rhodes Bldg., Atlanta, has announced that **O. C. Puckett** is now covering the state of Florida for Dawes & Co.

Mr. Puckett was a first lieutenant and bombardier in the Air Corps during the war, serving in the European theatre of operations with the Army's B-24's. He was shot down in June, 1944, and interned in Germany for the duration of the war.

O. C. Puckett

•

Robert J. Flanagan has been appointed advertising and sales promotion manager of **Mitchell Manufacturing Company**, according to a recent announcement by **B. A. Mitchell**, president.

Mr. Flanagan succeeds **Armand S. Zucker**, who has taken over the newly created post of director of design and development.

Prior to joining the Mitchell organization, Mr. Flanagan was assistant advertising manager of a large Chicago radio and appliance manufacturer. Mr. Flanagan started his business career in the advertising department of Commonwealth Edison Company, after his graduation from Loyola University of Chicago.

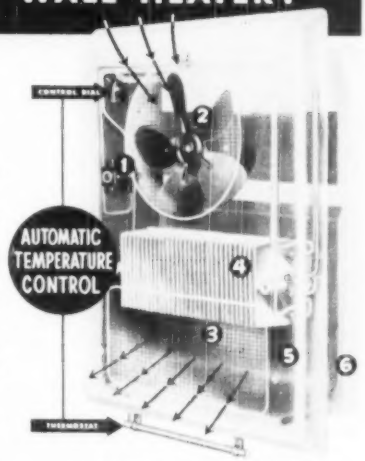
NEW AUTOMATIC, ALL-ELECTRIC

ELECTROMODE

DOWN-FLO WALL HEATER!

World's Safest Heater with Lifetime Heating Element

1. **100% AUTOMATIC CUT-OFF** safety switch prevents overheating.
2. **QUIET, LONG-LIFE MOTOR** gives silent operation.
3. **EXCLUSIVE DOWN-FLO HEATING** provides maximum heat distribution from floor to ceiling and eliminates wall smudge.
4. **EXCLUSIVE LIFETIME HEATING** Element has no exposed wires . . . no danger of fire, shock or burn.
5. **ATTRACTIVE SILVER-GREY FINISH** blends with home furnishings.
6. **AS EASY TO INSTALL** as an outlet.



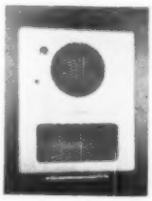
Approved by Underwriters' Laboratories

There's Nothing Like ELECTROMODE HEAT!

Builders and contractors are earning extra dollars by actively recommending and installing Electromode all-electric heat. Consumers say there is nothing like it for economical home or industrial heating.

Electromode Heaters are ideal for homes, offices, apartments, cottages, auto courts, etc. They are being sold and installed in old and new homes everywhere. In Chattanooga, Tenn., over 5,000 homes are completely heated by electricity and in Nashville over 6,000. Thousands upon thousands of homes in all parts of the country use one or more Electromode Heaters for complete or auxiliary heating.

Wherever heat is required quickly at lowest possible cost without plumbing or duct work and without disturbing the central heating system, Electromode is the answer.



AUTOMATIC DOWN-FLO WALL MODELS [illegible] room heating. Built-in thermostat control. Range 55° to 85° F. Fan circulates warm air at floor level. Available at 120 or 240 volts and 1500, 3000, 4000 and 4000 watt capacities. Also available non-automatic. Front Plate 12" wide, 21" high, 3¼" deep. Extends 2" from the wall. Fits between standard studding.

AUTOMATIC WALL TYPE BATHROOM HEATER [illegible] for baths, bedrooms, dressing rooms. Used as air and clothes drier. Built-in thermostat control. Range 55° to 85° F. 1500 watts, 110 volts. Available in chrome or white, automatic or non-automatic. Front Plate 11½" high, 12⅞" wide, 3⅞" deep. Extends 2" from the wall. Fits between standard wall studding.

Electromode makes a full line of all-electric fan-circulating heaters for industry, business and farm. Electromode Heaters are nationally advertised and available through leading electric wholesalers.

ELECTROMODE *All-Electric* **HEATERS**

FREE CATALOGS!

ELECTROMODE CORPORATION DEPT. ES-30
45 Crouch St., Rochester 3, N. Y.

Please send domestic and industrial heater catalogs together with full technical information.

NAME _____
TITLE _____
ADDRESS _____
YOUR WHOLESALER _____

Walker Brothers
also manufacture
DUALCOTE
Rigid Steel Conduit
•
Electrical Metallic
Tubing
•
Underfloor
Distribution
Systems

Order your Walker Wire and Cable from the nearest warehouse and be assured of quick delivery.

- Rubber Covered Building Wires
  Types R, RH, RW, and RL
- Thermoplastic Wire
  Type TW
- Walkerflex Non-metallic Cable
  With T or R Conductors
- Service Entrance Cable
  Type SE, Styles U and A
- Walkerprene
  Type USE
- Neoprene Covered
  Weatherproof Wire

Southwest

E. W. STURDIVANT
3306 Wichita St.
Houston 4, Texas

Southeast

GLENN & LARSON
171 Simpson St., N.W.
Atlanta, Ga.

Other Walker Sales Offices in the South

WALKER BROTHERS
1025 Connecticut Ave., N.W.
Washington 6, D. C.

E. H. WESTBROOK
5404 Mahaska Road
Richmond 21, Va.

W. V. ROUNTREE
1313 Hay Drive
Charlotte 3, N. C.

GLENN & LARSON
2670 S. W. 16th Ave.
Miami, Fla.

WYNNE SNODDY
2nd Unit Sonny Te Bldg.
Dallas, Texas

walker
of Conshohocken

NEW PRODUCT NEWS

Plug-In Panelboard

The new Neark Flexunit Plug-In Distribution Panelboard, manufactured by Federal Electric Products Co., 50 Paris St., Newark 5, N. J., eliminates waiting for factory assemblies.

The Flexunit is assembled on the job from standard parts supplied by the wholesaler. Circuits can be changed readily, or new ones added, whenever desired.

The neutral provides for 3-phase 4-wire, and single phase, 3-wire services. It is available with twin 30, twin 60, 30-60, twin 100 and single 200 ampere switches for 230 volts a.c. Box and trim are Code gauge steel, complete with standard hardware.

•

Register Checker

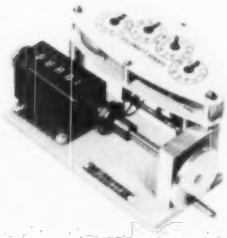
A new register checker which will check the ratio of any General Electric Company watthour meter register except the I-50 has been announced by The Eastern Specialty Company, Philadelphia 40, Pa., in Bulletin No. 58.

The checker is light in weight, portable, completely self-contained, and requires no motor connections. It makes it possible to check registers in the meter shop or in the field in a matter of seconds.

The register is placed on the two locating pins, so that the worm gear on the register will mesh with the gear on the crankshaft in a one to one ratio.

If the ratio stamped on the register frame is correct, then by turning the crank through as many revolutions as are indicated by the ratio, the right hand dial pointer of the register will have completed one full revolution.

The cyclometer counter totalizes the number of revolutions of the crank and fractions thereof to the nearest 1/10 revolution. This makes it possible to check the accuracy of



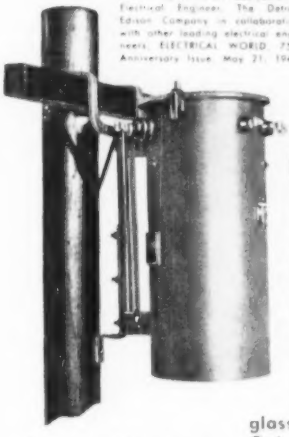
NOW! the transformer of the future

FUTURE POSSIBILITIES

. . . It is to be expected that such activity (improvements) will continue in the future. Much of it can probably not be foreseen at this time. There are a few items, however, which might be mentioned as either distinct possibilities or highly desirable.

There is considerable promise of the production of a dry-type distribution transformer for pole top installation. The advantage will be less weight and lower maintenance. It seems possible that on such a transformer the case might be reduced to a minimum or perhaps be eliminated entirely.

Excerpt from "Distribution Transformer" by Howard P. Seelye, Chief Electrical Engineer, The Detroit Edison Company in collaboration with other leading electrical engineers. ELECTRICAL WORLD, 75th Anniversary Issue, May 21, 1949



Currently available in sizes to 100 KVA, voltages to 5000 V.

AIR-COOLED TRANSFORMERS EXCLUSIVELY
1 to 2,000 KVA up to 15,000 Volts to meet Individual Requirements
- DISTRIBUTION
- GENERAL PURPOSE
- UNIT SUBSTATION
- PHASE CHANGING
- ELECTRIC FURNACE
- RECTIFIER
- WELDING
- MOTOR STARTING

Write for Bulletin #49-ACO

MARCUS

DRY TYPE AIR COOLED DISTRIBUTION TRANSFORMERS

Months before the publication of this excellent article on distribution transformers, Marcus, a pioneer in the field, announced a new line of *all purpose* dry type distribution transformers for indoor or outdoor service.

The complete absence of hazardous oil or toxic liquid affords safety never before realized. Superior Class B and C heatproof insulation, such as fibreglass, mica, porcelain, new Johns-Manville *Quinterra*, etc., results in overload capacities unobtainable with Class A oil filled units. The entire transformer element is seal protected against oil, acids, moisture, etc., and is housed in a sturdy, scientifically ventilated, weather proof case which conforms with all applicable EEI-NEMA construction standards. This extremely versatile transformer can be used outdoors, pole or platform mounted or indoors at the load center, mounted wherever convenient with no expensive fireproof vault required.

COMPETITIVE PRICES — GOOD DELIVERIES

NEMA

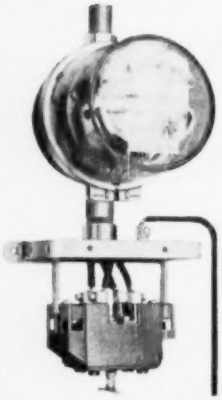
Sales Representatives:
W. E. HOLIMAN COMPANY, Houston 1, Texas
L. MORRIS LANDERS COMPANY, Atlanta 3, Georgia

MTC

MARCUS TRANSFORMER CO. INC.
38 MONTGOMERY STREET
HILLSIDE 5, NEW JERSEY

PIONEERS IN THE FIELD OF AIR-COOLED TRANSFORMERS

KEES METER SERVICE SWITCHES



OUTDOOR

All models completely enclosed in heavy 16-gauge steel cases. No openings where moisture and dirt can enter.

WEATHER-PROOF

Solid, tight fitting cases provide maximum protection against weather conditions.

TAMPER-PROOF

Enclosed switches may be sealed or padlocked to prevent damage from unauthorized use.

Kees trouble-free service switches are designed to give years of dependable service. Meter engineers and repairmen everywhere prefer KEES meter switches because of their reputation for rugged dependability.

Write Dept. ES-4 for Free Catalog

"Since 1874"

KEES

F. D. KEES MFG. CO. BEATRICE NEBRASKA

IT'S NEW!

The complete service entrance kit with the new plastic cap is now available at your local jobbers. Other service Entrance Kits designed to meet local requirements are also available.

Complete SERVICE ENTRANCE PACKAGE KIT

The most sensational new development in the electrical fitting field is the M. & W. plastic transparent cap for service entrance work. This non-breakable service cap with cable hanger attached offers better insulation, safety, and simplified installation work.

Write for complete details

M&W Electrical Fittings

The M. & W. ELECTRIC MFG. CO., Inc.

EAST PALESTINE, OHIO

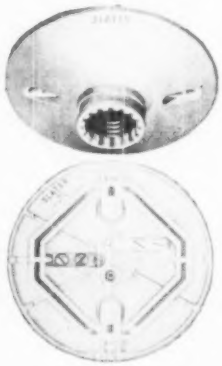
registers having an odd ratio such as 27/9. The counter can be instantly reset to zero by means of the knob at the end, and does not have to be run back. This saves time in checking a large number of registers.

•

Ceiling Lampholder

A COMBINATION keyless ceiling lampholder has been designed that is quickly and easily wired, according to Slater Electric & Manufacturing Co., Inc., Woodside, N. Y., manufacturers of this product.

With this lampholder, four large over-size screws are employed, making



through-circuit connections simpler, claims the manufacturer. In addition, it has built-in sealing-ring shoulders which fit tightly over either a 3½-inch box or 4-inch box.

The lampholder is made in two sizes, No. 276 (4½-inch diameter), and No. 277, over-size (5-inch diameter). The No. 277 will cover up a large area of chipped plaster.

Made in heat-resistant white bakelite, the lampholder will not warp, discolor, crack, or deteriorate in any way, according to the manufacturer.

•

Circuit Breaker Panel

A NEW and extremely flexible circuit breaker panel is announced by Federal Electric Products Co., 50 Paris St., Newark 5, N. J.

Known as the Federal Noark QL Panelette, it employs Quicklag Circuit Breakers in a calibrated range of 15, 20, 30, 40, and 50 amps, and QL Panelette cabinets with 2, 4, 8, 16, or 20-circuit breaker capacity. Any desired circuit combination, out of thousands of possible combinations, can be attained in a few minutes by simply snapping in Quicklag units of the proper calibration. Double pole

operation is obtained by adding handle extensions.

Quicklag Breakers employ a co-operative, thermal-magnetic trip action. An electromagnet breaks the circuit instantly when its current setting is exceeded. A bimetal flexes and trips the breaker as soon as its own predetermined current setting is reached or passed. Quicklags thus pass harmless momentary current surges, but break the circuit when shorts or excessive overloads occur.

•

Conduit Locknuts

Away back before only in a few limited sizes, Buchanan locknuts can now be ordered for all 14 standard sizes of rigid electrical conduit from ½ inch to 6 inch, inclusive.

These new locknuts, manufactured by Buchanan Electrical Products Corp., 1290 Central Ave., Hillside, N. J., are of durable construction. Sizes 7/8 inch through 1 inch are fabricated of heavy gauge stamped steel. Sizes 1¼ inch and larger are of tough malleable iron. All sizes are heavily cadmium plated to resist corrosion.

According to the manufacturer, clean machine cut free-turning threads and sharp sturdy tightening notches permit easy installation even in hard to get at places.

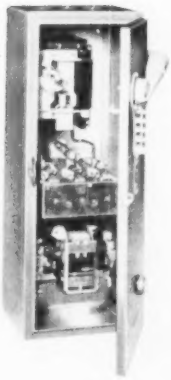
•

Combination Starter

A new circuit breaker type combination starter which features both increased operator safety and simplified installation and maintenance has been announced by Square D Co., Industrial Controller Div., 4041 North Richards St., Milwaukee 12, Wisc.

An interlock prevents opening the door when the breaker is "on," although an authorized person can release the interlock for inspection without power interruption. When the door is re-closed, a self aligning handle indicates true position of the breaker. The operating handle can be locked "on" or "off" with one, two, three, or four padlocks of varying sizes. The handle locking mechanism also locks the door. This mechanism is also available on control centers, and as a separate item for other uses with Square D breakers.

The thermal (coilless) magnetic circuit breaker is non-tamperable, gives repeat protection and can be quickly reset by anyone.



Guth Slimlines

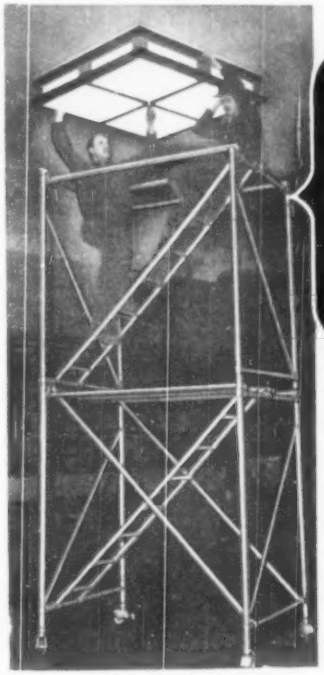
The new 4-foot and 8-foot single pin Slimline lamps offer many extra advantages and eliminate a considerable part of fluorescent maintenance.

The new Guth Slimline, Jr., manufactured by the Edwin F. Guth Co., 2615 Washington Ave., St. Louis, Mo., is a new series of lighting equipment designed for use with these new light sources. The Slimline, Jr., series includes fixtures for both 4-foot and 8-foot single pin lamps.

The Slimline, Jr.'s are completely described in Bulletin No. 850.

"SAVED HUNDREDS of MAN HOURS" ON INSTALLATION & MAINTENANCE

says E. C. Thirlwell, Jr., prominent electrical contractor of Louisville, Kentucky



Aluminum Alloy UP-RIGHT SCAFFOLDS

Mobile unit takes 1 man only a minute per section to assemble. Users actually report man-hour savings on even single jobs more than pay for Up-Right Scaffolds. Available in desired number of 6 ft. and shorter section units. Legs are instantly adjustable on uneven floor surfaces. Rolled easily from position to position; bridges obstacles with ease. Stronger than structural steel set one third the weight. Safety tread stairway completely within structure. No wrenches, wing nuts, bolts or loose parts. Each section folds flat.

Write For Descriptive Folder

UP-RIGHT SCAFFOLDS

DEPT. 117 • 1013 PARDEE ST. • BERKELEY, CALIF.

Factories: Berkeley, Calif. and Teterboro, N. J.

Sales Offices in All Principal Cities

Ground Rod

A NEW DRIVE HEAD ground rod, manufactured by A. B. Chance Co., Centralia, Mo., features a slotted, bolt-tightened wedge which makes a quickly assembled, permanent and positive connection between the conductor and ground, according to the manufacturer.

Ground connection is made by inserting the conductor in the slotted plug and tightening the bolt through the plug, wedging the ground wire tightly to the rod. The rod has a flat head for safe driving and a pointed end for easy driving. It is made of high carbon steel and heavily galvanized to resist corrosion.

•

Transformer Rewinding

(Continued from page 29)

A group of transformers are assembled each day and filled with oil in the afternoon. They remain on the assembly bench overnight before testing. This gives them time for the air bubbles to rise to the top before applying the high potential tests.

Insulation resistance tests are made between all windings and between windings and the case. If any of these readings are less than one hundred megohms, the transformer is rejected. For this test we use a 1000 volt Megger with a 5000 megohm scale. A rectifier supplies the 1000 volt d-c for this instrument.

Tests for polarity and ratio are made by conventional methods using standard transformers of the same ratio for comparison.

Core losses and exciting current are measured at the rated voltage of the transformer. An induction regulator is used to obtain the exact voltage.

A high potential test of twice the rated wye voltage of the winding plus 1000 volts is applied between windings and between windings and ground. The duration of the test is always one minute. During this test all coils are short circuited and the coils other than those to which the voltage is being applied are grounded to the case.

A complete test report is made for each transformer. This report shows the customer's name and purchase order number, our shop order, the complete name plate data of the transformer and results of the tests. A copy is mailed to the customer along with our invoice.

•

Distribution Practices — Pt. 3

(Continued from page 32)

The one way I know to get something for nothing is to simplify, standardize, and eliminate unnecessary items. I believe one of the outstanding accomplishments within my observation was the job done by one of my assistants (the head of distribution design), many years ago when we were connected with several of the North Texas operating companies. This man, working with his subordinates and the various district line foremen, eliminated unnecessary items or substituted items that would serve a multiplicity of purposes. The reduction in the total number of material items was indeed startling—if my memory does not fail, about 50 per cent. This served to simplify and speed up construction, to obtain more uniform construction, to reduce volume of inventories and stores issued, to render re-use of materials easier.

All of you realize that the natural temptation is to employ new articles and gadgets without corresponding elimination of stock items. A definite policy is necessary to combat such temptations. Here, I am willing to pose as a prophet and assert that any company that will conscientiously perform this same job will accomplish worthwhile results, if a group of companies will collaborate in such an undertaking, substantially greater benefits will accrue.

Previously, I mentioned the deplorable lack of standardization in substation practices. By virtue of my experience, dating back 25 years, I make the categorical statement that negligence in this regard is tantamount to wasted opportunities.

For many years the Ebasco Organization has made a practice of publishing treatises on a wide variety of subjects as a part of its service to its clients. One of the most noteworthy of these is rather cryptic and brief. It is titled, "Overhead Distribution Practices Recommended for Economies in First Cost and Operating Expense."

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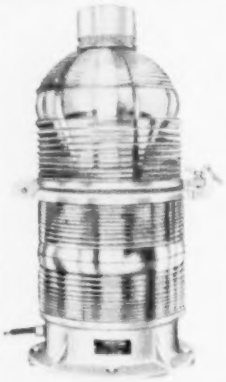

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INDOOR AND OUTDOOR LIGHTING EQUIPMENT TO SERVE EVERY NEED

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If it's fluorescent

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325 NW 22nd Lane, Miami, Fla.

The conclusions contained in this paper aroused much discussion at the time it was originally issued; doubtless will do so in the future. In fact, six or eight weeks of twice daily sessions, in which arguments were brisk and sometimes sharp, were required to develop the first edition.

Its introduction to the field created somewhat of a furore; some companies agreeing with certain of our conclusions, other companies with others of our conclusions. Unanimous adoption was the exception. But, a few years later, quite general acceptance had been gained and many of our clients acclaimed this work as being an outstanding contribution to the industry. Subsequently, this publication was twice revised and reissued. It is scheduled for a third revision during the coming year.

This represents one of the rare instances when we had the temerity to lay right on the line our recommendations covering so broad a field. We were convinced that the possible savings were very large because the electric distribution systems represent a dominant portion of the utilities' investment and a major portion of their annual operating expenses is attributable to distribution operating and maintenance. It was too glorious an opportunity to miss, even if we did lose some hide in the process. After all, skin will grow anew but money down the rat hole is not easily recovered. (End of Series.)

Design Data for Attic Ventilation

(Continued from page 26)

matic thermal cut-outs which prevent overheating of the motor from any cause and thereby eliminate the motor as a fire hazard, as well as protecting the user from a burned out motor due to overload.

II. Operational Suggestions

Oil motor and fan bearings according to the manufacturer's direction card. When the fan is first installed, check all bearings for lubrication.

Check rotation of fan and examine the belt for tension and alignment.

Before starting the fan, be sure that a door or window to the outside is open. The fan will pull soot down the chimney if there is no other way for the air to enter.

When the fan is first operated check for noise sources such as loose parts in the fan and suction chamber and for loose floor boards on the attic joists.

After the first few weeks of operation check the fan belt for tension and adjust it necessary, doing so in accord-

PRECISION BUILT

CUTOUT BOXES
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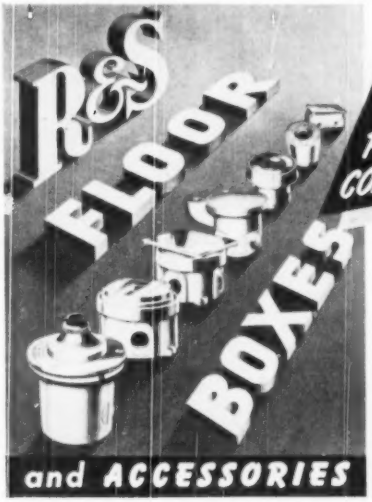
NEW ADDRESS — 590 MEANS STREET N. W. — ATLANTA, GA.



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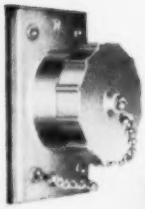
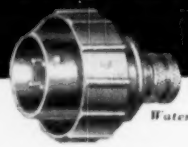


Receptacles for FS-FD Pylet bodies

Watertight Plugs and Receptacles



Watertight Plugs

WITH

TRIPLOC CONTACT UNITS

• These substantially built plugs and receptacles are equipped with Triploc contact units and are watertight for use as floodlight connections or for any other type of portable electrical equipment where weather protection is needed. Types include 1, 2, 3, 4, 6, and 8 pole units. Receptacles are galvanized cast iron with brass cap. Plugs are cast aluminum alloy with threaded nut and rubber bushing cord grip. Female contact units can be mounted in plug shell as well as in receptacle housing, as all contact units are interchangeable and reversible. For any type of outdoor plug and receptacle connections refer to your Pylet Catalog for complete listings.

SINCE 1897

THE PYLE-NATIONAL COMPANY

1354 N. Kostner Avenue, Chicago 51, Illinois

ance with the manufacturer's instructions.

A thorough yearly inspection and oiling is recommended.

Instruments in Maintenance

(Continued from page 24)

Voltmeters used with tachometers can be calibrated in revolutions-per-minute or in inches-per-minute. Whatever the basic instrument may be, and sometimes an arbitrary scale is more suitable, it is recommended that common instrument ratings be selected. This allows the instrument manufacturer to give you a lower price instrument, and quicker shipment.

Another question that often arises is whether or not instruments will withstand the overloads due to inrush currents during motor starting. Well built instruments are designed to withstand this inrush without damage either mechanically or electrically. For instance, a 5 ampere a-c ammeter of the type previously described will withstand 500 amperes for two seconds without damage. Generally the overload rating of a majority of indicating and recording instruments, either ammeters or wattmeters, is conservatively set at about 100 amperes for two seconds, or 25 amperes per minute, which is more than adequate for virtually all applications.

While built-in instrumentation tends to reduce the requirements for portable test instruments, it is obvious that it is not feasible to include instruments for all electrical circuits. Therefore, portable test instruments are needed, and are called for by plant cables, and branch circuits, in order to allocate system capacity most efficiently; to prevent overloading, with subsequent loss of power through heat and danger of fire; to determine voltage supplied to apparatus; to check speeds; to determine insulation resistance; to prevent breakdown and grounding; and, to make power factor analyses.

It is important that these portable test instruments be as completely self-contained, and as flexible as possible. It is therefore recommended that the following instruments be used for this application.

1. The a-c industrial analyzer, which is a compact, light weight, and durable unit combining all of the instruments necessary for alternating current testing, for checking, and for installation work in industrial plants. It eliminates the time lost in selecting, gathering and carrying equipment to a job, and greatly reduces connecting and set-up time.

The analyzer includes all of the necessary measuring units, transformers, resistors, and switches in one case for making complete a-c circuit tests up to 125 amperes, and 600 volts, single or polyphase. External potential transformers and current transformers can be used to extend the range between these values. The analyzer contains the following instruments: a triple scale ammeter, a triple range voltmeter, a triple scale wattmeter, and a polyphase power factor meter. The ammeter is equipped with a follow-up pointer for measuring motor starting current.

Single and polyphase motors and other apparatus can be checked and tested by connecting the analyzer on the line at the fuse clips, junction box, or terminals. All measuring instruments are placed close together to permit accurate and simultaneous readings. This tends to minimize mistakes and saves time.

2. The d-c industrial analyzer is a comparison to the a-c analyzer and in general performs the same function for d-c measurements. It contains in one compact unit all of the measuring elements usually required for industrial d-c motor and control testing. It

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The transverse graphite insert—exclusive with Helwig-Speer Transert Brushes — provides even current distribution, better ring lubrication. That means reduced ring wear, more uniform frictional characteristics for your rotating machines. Wedge- and force-fitted, the inserts cannot fall out. Catalog 95 contains complete information on ordering brushes. Write for your copy today.

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HELWIG CO., Carbon Products

Makers of Multiflex and Transert Brushes

consists of an ammeter and a voltmeter completely equipped with suitable shunts, multipliers, and range changing switches. This unit has a self-contained rating of 15, 150, 300, and 750 volts; 7.5, 75, 750 amperes; and, a 200 and 20,000 ohm scale. This instrument is also equipped with a follow-up pointer for measuring motor starting current.

5. Ac and dc test sets—this small pocket size test set has ac and dc voltage ranges from 1½ to 750 volts, dc milliampere ranges of from 1½ to 150 milliamperes, and two ohm scales, 0-to-1000 and 0-to-1,000,000 ohms. The application of this instrument is quite evident, and proves extremely useful in the maintenance of electronic equipment and control.

4. Often only load currents are needed for measurement, and a single self-contained ammeter having full scale ratings of 2, 5, 10, 20, 50, 100 and 200 amperes is generally found to be the most universal instrument for this application. Wide ranges of ac and dc voltmeters are also available, but usually a triple range voltmeter will suffice for practically all requirements.

5. Portable recording instruments—either round or strip chart type are available in a wide variety of ranges. For maximum utility a general utility wattmeter that can be used on either alternating or direct current having a triple voltage range of 115, 230, and 575 volts, and a 5 ampere current coil that can be used with either the 5 ampere secondary of a current transformer, or a 100 millivolt shunt is recommended.

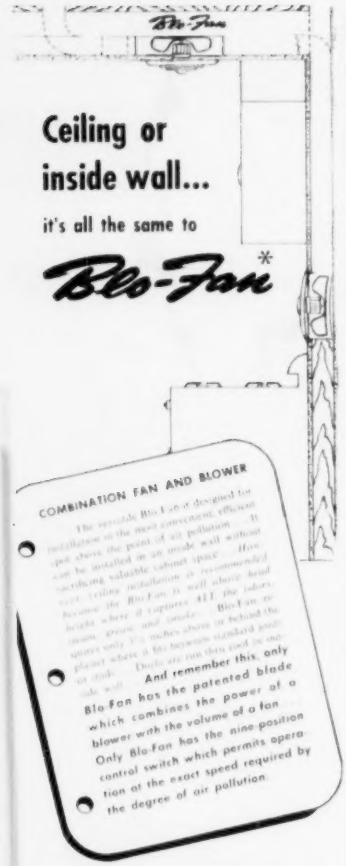
For voltage measurements a voltmeter that can be used on either alternating or direct current and has the double range that covers the necessary voltage ranges from 150 to 750 volts is recommended. It should be noted that these are electro-dynamometer type instruments and are primarily used for ac applications, but may be used on direct current with only slight reduction in accuracy, and are of the strip chart variety. For ac and dc current measurements, it is best to get separate instruments, one having a 5 ampere coil to be used with a portable multi-range current transformer and the direct current should be used with a wide range of available shunts.

6. Clamp-on type ammeters—these are available in two types. One can be used on only alternating current, while another is good for both alternating and direct current. The ranges covered are 10, 25, 100, 230, and 1000 amperes. Some of these indicators also have voltage ranges of 150, 300, and 600 volts ac. These instruments are handy to give voltage and current readings when there is not time for more precise measurements, and where watts and power factor are known or assumed.

7. Megger—this is an extremely useful instrument, and is used for preventive maintenance purposes. Insulation tests are generally made with a 500 volt type Megger, and these tests are made to determine the condition of the insulation, rather than the quality of the insulation. A higher voltage Megger may damage low voltage insulation. While special conditions may justify dielectric tests, high frequency tests, or dielectric power factor tests, the test to determine insulation generally required in maintenance work, is a Megger. Megger readings are valuable only from a comparative standpoint, and they vary greatly with ambient conditions. A safe general rule is that insulation resistance should be approximately one megohm for each 1000 volts of operation voltage with one megohm as a minimum.

There are many other specialized test sets, such as vacuum tube voltmeters, tube checkers, oscillographs, oscilloscopes, cable tests, field intensity meters, surface analyzers, etc., but they are not generally called for daily by the maintenance men, unless there are very special conditions. For example, a vacuum tube voltmeter is only needed when a sensitivity of more than 20,000 ohms per volt is required. Oscilloscopes and oscillographs are generally used for more detailed engineering studies, or where the response time of recording instruments is not sufficient. It is not the intention of this paper to cover these specialized test sets.

To summarize: instruments can provide the specific positive information that is indispensable for keeping production and power equipment in the best operating condition, and can serve as a guide to the ideal maintenance program which aims at prevention of breakdowns, rather than their repairs. To accomplish this, industry uses more electrical instruments today than ever before, and is continually finding new and important applications of instruments, resulting in better control, more economical use of power, and a production of high grade finished products with a minimum of complications and attention. Instruments are the guide for both the operator and the mainten-



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*Trade Mark Reg.

ance than in their constant effort to increase production and to cut down maintenance time and the attendant costs due to unnecessary shutdown. Instruments are the eyes of industry.

Design for the Best In Classrooms

(*Continued from page 21*)

Here are some of the things which came up during the construction:

(1) **Flooring:** darker than specified, lighter materials not available at the time of building.

(2) **Polished Marble Sills:** continued from the design of the earlier building provided a mirror surface which is highly objectionable both as a source of glare and as a projected distracting pattern on the ceiling.

(3) **Lockers:** in the back of the room in dark brown finish. The contractor failed to specify lighter finish.

(4) **Steel Supporting Beam:** and framework around glass block painted dark green to harmonize with sash of the old building. This provided a sharp contrast between the light glass block and the adjoining surfaces.

(5) **Decoration:** lack of funds at the end of the project prevented rooms from being decorated at all.

(6) **Vision Strip:** for the same reason, venetian blinds were not put on the vision strip so excessive sky brightness became objectionable on the west side in the afternoon.

(7) **Desks:** the most exasperating experience of all. The correct type of natural finish desks had been ordered with a dull non-glare finish, but as soon as they were unpacked, the janitor varnished them to put on a high gloss finish because the factory, he thought, "has not been doing a good job of finishing since the war."

Some of these errors were not discovered until the fall term started. A responsive school board is correcting them as quickly as possible. Venetian blinds are being added to the vision strip. One room has been decorated in accordance with the original recommendations. A photometric test of this room has been made and it was found to meet all requirements of the American Recommended Practice of School Lighting with the exception of the sky brightness through the vision strip and a slightly out of balance dark floor.

On a test day sky brightness through the unshielded vision strip was as high as 3,450 foot-lamberts, a ratio of 38 to 1.

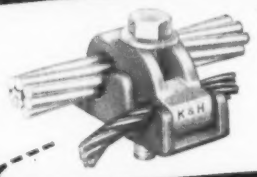
From a lighting point of view, the dark lockers at the back of the room robbed the students in that section of 9 foot-candles of illumination.

If we were to "grade" this school as a term paper, at the time of completion, these classrooms would have gotten 75%, just passing. By the time the room was redecorated and venetian blinds added to the vision strip, the photometric "grade" was about 92%. If we had not planned for a 100% perfection in these classrooms, we'd never have got it up to 92%, because of uncorrectable fundamental errors in design or construction.

Luckily, prismatic glass block, green chalk boards, luminous indirect fluorescent equipment, natural finish desks were part of the original plans which were carried out. But any one of these might have been overlooked due to a misunderstanding as to their purpose. But even though the school superintendent, the school architect and the school board are convinced as to what makes a co-ordinated classroom, in the natural competitive system in which bids are let and sub-contracts issued, there is bound to be attempted savings or short-cuttings which will cross-up any well designed plan, unless it is policed constantly.

In lighting, for example, the chain of sale from the school board to the general contractor, to the electrical

HERE'S A CONNECTOR



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Made in 3 Surface Finishes
Approved by Engineers and Contractors doing R E A work

Effectively used as guy line ground, or transformer and lightning arrester connection to A.C.S.R. or copperweld conductors where the diameter may be from 3-A copperweld to .595" A.C.S.R. armour rods.

ADAPTABLE TO A WIDE RANGE OF USES

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DIXISTEEL

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GROUND RODS

5/8" x 8'

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Sharp-pointed for easy driving . . . hot-dip galvanized for positive protection against rust, 5/8"x8' size carried in stock. Other sizes available.

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No. 41

GUARANTEED *Unconditionally*

** Levolier Model 41 6 Amp. "T" rated, 125 volt switch is unconditionally guaranteed when used in lighting circuits. In case of failures a new Model 41 switch will be furnished without charge.*

When you install Levolier Model 41 switches in lighting circuits, you've installed the switch that will not fail. No kickbacks or complaints. Just dependable, always-working performance. In fact, the patented Levolier action is so positive that the No. 41 is unconditionally guaranteed*. Thousands of Model 41's, in use for years, prove this true. The small, compact size makes it ideal for use in modern lighting fixtures, as well as for FHP motors.

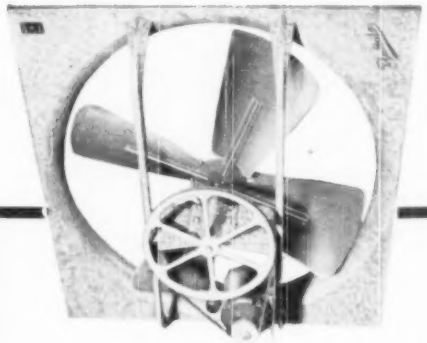
Available From Your Electrical Wholesaler

For McGill Catalog No. 49 write to McGill Mfg. Co., Inc., 650 N. Campbell St., Valparaiso, Indiana.

A new Levolier Model 71—This 6 amp 125 volt, "T" rated switch has a molded plastic case less than ½" thick. Pressure connected six inch wire leads provide fast, easy installation.

McGILL® electrical specialties

ONLY McGILL MAKES *Levolier* SWITCHES



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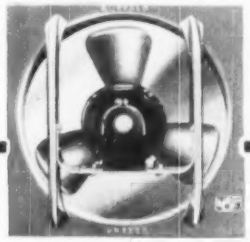
They're volume sellers because fine quality guarantees long life and economical operations! Sturdy and rigid. They LAST! 8" to 24" sizes.

WRITE FOR BULLETIN 32224 AND PRICES!



BUFFALO FORGE COMPANY

210 MORTIMER STREET BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Branch Offices in All Principal Cities

BREEZO FANS BELTED VENT SETS

E BLOWERS BELT-AIR FANS

ALL BUFFALO FANS CARRY THIS LABEL

Extraordinary SERVICE

Priceless Yet Costs You Nothing!

Getting exactly "What you want, when you want it" may be worth thousands of dollars to you in emergencies. Yet this service is yours for the asking at SOUTHERN CARBON BRUSH. Whether your order is "emergency" or routine, you'll be pleased with our results . . .

Manufacturers of Carbon, Graphite and Metal Graphite brushes for motors, generators and rotary converters . . . Single phase motor brushes, carbon contacts for elevators and switchboards . . . Flexible braided shunts for controls and switchboards . . . Bunting bronze bearings, Safe-T-Mike Capacitors, Ideal Industries, Inc. maintenance equipment . . .

SOUTHERN CARBON BRUSH COMPANY, Inc.

Birmingham 1, Ala.
P. O. Box 1710
7 18th St., S. W.
Phone 8-6515

St. Louis 1, Mo.
P. O. Box 4535
110 S. 9th St.
MAin 4060

TAPES by OKONITE

YOUR GUARANTEE OF EXTRA VALUE

"The tape with the yellow core"

Sold only through Recognized Wholesalers

Ask for them by name...

Panther and Dragon

friction and rubber tapes.

wholesaler and finally to the manufacturer is so long and involved that constant policing is required to assure a child the square deal in school environment which the school people intended and planned to give him.

"Why plan for such perfection"? If it were possible, we should plan even beyond perfection, then supervise and police constantly in order to get something better than three-quarters of what was planned, accepted, and authorized originally.

Labor-Saving Methods — 1

(Continued from page 18)

der an ambient temperature of 135 degrees, Fahrenheit. This is essential to insure long service with low maintenance expense. Many types of wire would quickly deteriorate at this temperature. Some 60,000 feet of this wire was used to complete this job.

On this job, as well as all others, we depend largely on time-saving equipment. There is no substitute for them. And we own enough of each to take care of every job we have going simultaneously without the added cost of moving devices from one job to another.

Equipment of this nature has another important aspect. While the men on the job may not appreciate the time-saving element, they do expect these devices to make their work easier.

By continued use of these devices easier and quicker methods evolve automatically. The job we have just told about could not have been undertaken or visualized . . . had our men lacked the experience of working with modern equipment. Advancement comes from putting what is already available to new uses.

Labor-Saving Methods — 2

(Continued from page 19)

000 feet of type RH Number 10 wire. The conventional way to have held this overhead conduit in place would have been to use bolts and nuts but this would have resulted in many dust collecting projections. Instead we used stud welding. This gave us a flush job; much neater. And we saved on drilling time alone over 3,000 man-hours by using the stud welding.

As you regular readers of Electrical South know, this magazine advocates utilizing time-saving equipment for your own benefit and, at the same time, to give your customer a better job. I heartily agree with this. I have found there is no satisfactory substitute for modern equipment. As it was, we had as many as 72 men under the direct supervision of 8 foremen scattered out on this job at one time. By using modern equipment, we were able better to co-ordinate the work. If you are acquainted with power tools and equipment, you know just about how fast a given job will progress; without this equipment your best estimate is a vague guess . . . a guess that causes costly delays while one crew is waiting idly for another to get out of the way.

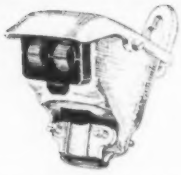
I have learned that to get the best efficiency from new equipment, you must have experienced men to man them. On a big job you can't afford to indulge in a training period . . . too many men are waiting behind. This experience is best gained on smaller jobs so the fumbling doesn't hinder so many others.

SLIMLINE & FLUORESCENT BODIES

STA-BRITE FLUORESCENT MFG. CO.
325 NW 22nd Lane, Miami, Fla.

NON-METALLIC — BX & GROUND WIRE

931-V



SERVICE ENTRANCE CAP

1819

Sold Thru Your Local Wholesaler

ATLANTIC CONDUIT FITTINGS CO.
BOSTON, MASS.

ELECTRICAL SOUTH

March, 1950

This is one section of the current issue of Electrical South.

Appliance Section

Household and Commercial Appliances • Radio • Television

ELECTRIC HOUSEWARES—The week of April 14 will see a tremendous release of publicity, advertising, and promotion on electric housewares (the new name for small, traffic and table appliances). Sparked by NEMA, smart dealers will put their best electric housewares forward. (See page 99.)

ALSO IN THIS ISSUE:

Rural Selling 88
Hiring Salesmen 90
Color Television 96

Copyright, 1950

ELECTRICAL SOUTH, 806 Peachtree St., NE, Atlanta 5, Ga.

101* reasons

why *Vornado* is imitated

WORLD'S FINEST AIR CIRCULATOR

*Complete list on request

NOW! THE *Vornado* TURNABOUT CASEMENT WINDOW FAN

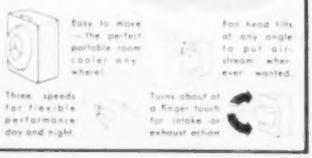
DESIGNED AT YOUR REQUEST to cover the huge, untapped market of homes, apartments, hotels, offices and stores with *casement windows*.

FITS INSTANTLY almost any casement window. No tools, no work required to install . . . and enjoy *better cooling* through Vornado's exclusive high velocity, deep penetration, better circulation.

MR. DEALER...

You take no chances when you feature the *genuine* *Vornado*

It has proved its public acceptance in every market in the United States with over a million users!



A PRODUCT OF THE O. A. SUTTON CORPORATION • WICHITA, KANSAS

The Magnificent New **Deepfreeze** *Refrigerator*

As Seen for the ***FIRST TIME***
By ***76,000,000 CONSUMERS IN•••***

SATURDAY EVENING POST ★ BETTER HOMES & GARDENS ★ AMERICAN HOME
HOUSE BEAUTIFUL ★ McCALL'S ★ AMERICAN MAGAZINE ★ HOLLAND'S
SUNSET ★ PATHFINDER ★ COUNTRY GENTLEMAN ★ SUCCESSFUL FARMING
FARM JOURNAL ★ PROGRESSIVE FARMER ★ CAPPER'S FARMER

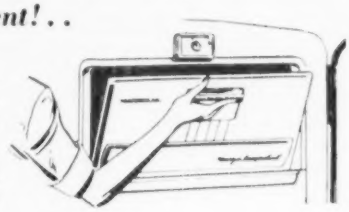
Go Buy the Name...

Deepfreeze
TRADE MARK REG. U. S. PAT. OFF.

HOME FREEZERS • REFRIGERATORS • ELECTRIC RANGES • WATER HEATERS

Go Buy the Name... **Deepfreeze**

The ONLY Refrigerator Line with the Exclusive Deepfreeze Freezer Compartment!..



Three great *exclusive* features make this the stand-out refrigerator of the year! 1. The name "Deepfreeze." 2. The Deepfreeze Freezer Compartment (research proves this "name" feature means sales for you!) 3. Exclusive Handy-Bins in Dual Vegetable Crisper (Handy-Bin—a special hinged lid compartment in front for "small" vegetables and fruits). And there are many more! . . . *features women want!*

FEATURES... *of Tomorrow's Design* With SALES in Mind!...

Butter Box

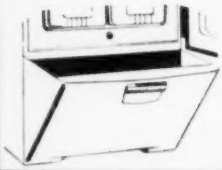
With Spread Control

Keeps butter the way your customers want it! Butter is never too soft, never too hard, for owners set the individual spread control dial to the spreading temperature they prefer. Snap latch holds door securely.

Swing Shelf

With Plastic Left-Over Dishes

Exclusive Deepfreeze feature! Swings out to provide easy access to milk and tall bottle storage. Swings back into place automatically. Shelf equipped with plastic left-over dishes. Entire unit easily removed for extra large storage space.

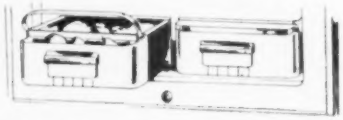


Dry Storage Bin

Here is a great space-saving feature for bulk storage. The Dry Storage Bin keeps large amount of groceries, potatoes and packaged goods fresh and out of way, out of sight. Easily accessible because it tilts out conveniently.

5 Year Warranty

In addition to the one-year warranty on the entire refrigerator, there is a four year replacement contract on the sealed compressor unit. You can always depend on top performance . . . backed by "Deepfreeze."

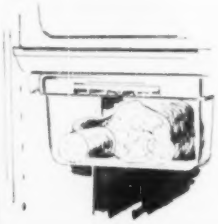


Handy-Bins in Dual Vegetable Crisper

Keeps vegetables and fruits moist and crisp—protects goodness, prevents drying out. Handy-Bins (special hinged-lid compartments in front) make "small" items easily accessible. Ideal for storing eggs, radishes, lemons, etc. And there's *plenty* of room in the back of the Crisper for larger items.

Adjustable Shelves

Extended shelf area gives extra shelf space, makes food easier to reach. Refrigerator shelves lift out for convenient storage of large fowl or other bulky items. Also has sliding shelf which is adjustable for height. All shelves of triple plated chrome for heavy duty wear.



Plastic Meat Tray

Keeps meats in top condition, safe at all times. Plastic tray is easily cleaned with damp cloth.

The Only Refrigerator

with the Exclusive **Deepfreeze** *Freezer Compartment!*

MODEL W-9
Net Storage Capacity 8.5 Cu. Ft.
Overall Height 61¼"
Overall Width 30¾"
Overall Depth 25⅜"
$319.95
Retail Price

MODEL W-11
Net Storage Capacity 10.5 Cu. Ft.
Overall Height 65¾"
Overall Width 33½"
Overall Depth 25⅜"
$349.95
Retail Price

MODEL F-11
Net Storage Capacity 11.3 Cu. Ft.
Overall Height 65¾"
Overall Width 33½"
Overall Depth 25⅜"
$279.95
Retail Price

MODEL F-9
Net Storage Capacity 9.1 Cu. Ft.
Overall Height 61¼"
Overall Width 30¾"
Overall Depth 25⅜"
$249.95
Retail Price

MODEL F-7
Net Storage Capacity 6.9 Cu. Ft.
Overall Height 55"
Overall Width 24¼"
Overall Depth 25⅜"
$199.95
Retail Price

© 1950 Deepfreeze Appliance Division, Motor Products Corporation

Ask Your Distributor About These Great *Deepfreeze* Appliances Today!

New Models

Deepfreeze
HOME FREEZERS

Larger Capacities At Lower Prices! There are now 6 models in this, the first and finest line of home freezers. The newest member of the Deepfreeze home freezer family is the C-16, a de luxe model with a capacity of 16 cubic feet. It holds more than 560 pounds of assorted foods and retails for $489.50. There's a Deepfreeze home freezer to fit every purse, every family's needs.

From $229.95 Retail Price

The All-New

Deepfreeze
ELECTRIC RANGES

Monotube super contact units; automatic time control and electric clock; porcelain enameled broiler pan and aluminum alloy smokeless tray; interval timer; reminder clock for periods up to 60 minutes; automatic preheat oven temperature control; fluorescent range lamp; appliance outlet; broil-bake signal lights; automatic oven light, inset pan, trivet and french fry.

4 MODELS From $159.95 Retail Price

The All-New

Deepfreeze
WATER HEATERS

7 Models In An All-New Line. A complete line of Deepfreeze Water Heaters. When you carry the seven models with the Deepfreeze name, you can promote them, display them, and sell many, make money. There's a model for every home, for the requirements of every family.

MODEL WB-312 Capacity 31 gals.	$114.95	MODEL WB-412 Capacity 61 gals.	$189.95
MODEL WB-422 Capacity 42 gals.	$129.95	MODEL WC-302 Capacity 30 gals.	$129.95
MODEL WB-502 Capacity 50 gals.	$139.95	MODEL WC-402 Capacity 40 gals.	$139.95
MODEL WB-662 Capacity 66 gals.	$169.95		

All Prices Retail
Twin-Bolt Prices Listed

Don't Delay!

See Your Distributor TODAY!

Your Deepfreeze distributor will gladly explain the details of the Deepfreeze franchise and the complete Deepfreeze line. Ask him about the national advertising program and the many practical selling aids available to Deepfreeze dealers. You can sell these four great products to the carload for a handsome profit! Don't delay—see your distributor—or write direct for details about America's Number 1 home appliance franchise. Deepfreeze Appliance Division, Motor Products Corporation, North Chicago, Ill.

Go Buy the Name...

Deepfreeze

TRADE MARK REG U S PAT OFF

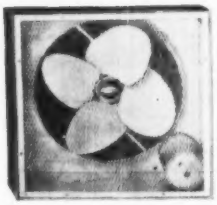
HOME FREEZERS • REFRIGERATORS • ELECTRIC RANGES • WATER HEATERS

Fresh-Air Makers

FOR 1950 WILL

Sell a Plenty

because: they are high quality fans with new features bound to be popular • top performance • good looks • and priced right.

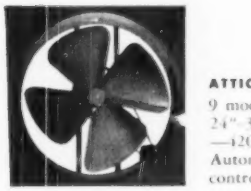


24" WINDOW FAN, CABINET or NON-CABINET—universal outside or inside application—waterproof motor—practically eliminates installation cost—a natural for complete ventilation small homes—a beautiful fully enclosed floor fan.

1950 LEADERS—a low priced, two speed, 16" and 20" window fan, big air delivery, many selling features, attractive and quiet.

FULL POPULAR PRICED LINE 10"—12"—16"—20".

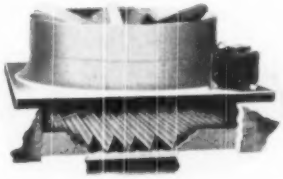
DEALERS • DISTRIBUTORS
CONTRACTORS • JOBBERS
Please send for complete 1950 catalog.



ATTIC FANS
9 models, belt driven. 24"-30"-36"-42"-48"—4200 c.f.m. to 20,500. Automatic shutters and controls.

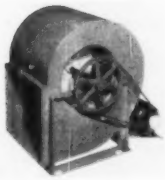
AIR HANDLING AT ITS QUIETEST BEST

EXHAUST FANS
Direct driven, 3 speed, 12"-16"-20".



ATTIC-PAKS
Seven models for all popular ceiling applications—24"-30"-36"-42"—all steel—belt driven—ball bearing fans and motors.

PORTABLE FANS
Handy, beautiful, direct driven, 3 speed, 12"-16"-20".

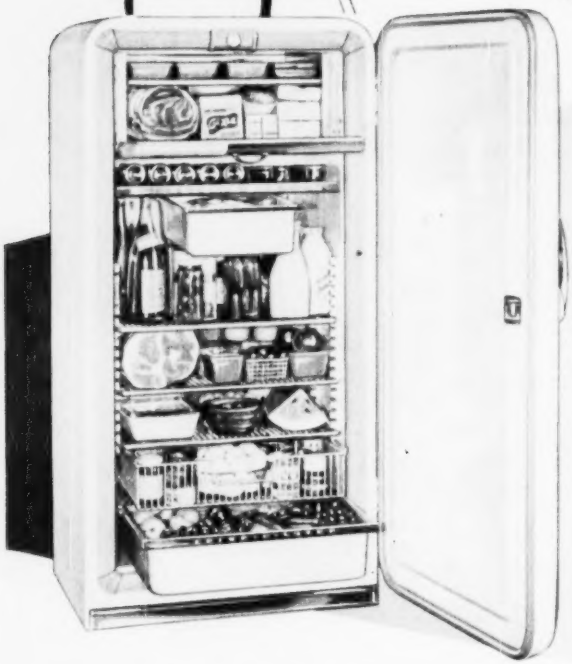


HY-DUTY CENTRIFUGAL BLOWERS
Dozens of models—Single Inlet or Double Inlet—5½" to 25", 200 c.f.m. to 15,000 c.f.m.

A PRODUCT OF

SCHWITZER-CUMMINS COMPANY • VENTILATING DIVISION
1125 MASSACHUSETTS AVENUE • INDIANAPOLIS 7, INDIANA
ENGINEERS AND MANUFACTURERS
of Fine Fans for 31 Years

Only Coolerator gives you the Big 4 in refrigeration



1 BIG CAPACITY SPACE-SAVERS

Real space-saver models with the big capacity every homemaker wants in her new refrigerator. Only 28 inches wide to fit in the space of an ordinary "6"—yet they provide 9½ cu. ft. capacity with 20 sq. ft. of shelf area. That's a combination that's bound to close sales.

2 FULL-LENGTH DOORS AND MODERN STYLING

New streamlined beauty outside—new self apparent convenience inside—are the natural results of Coolerator's revolutionary new design which puts the motor on the back! Every inch a refrigerator—with more room to freeze and store. More for your money than ever before.

3 2 KINDS OF FREEZING COLD

'Way below freezing cold in the full-width Freezer-Chest to store 40 lbs. of frozen food safely and keep ice cream frozen firm—with a separate quick-freezing shelf for ice trays. Quick-Chilling cold in the adjustable Chill-R-Ator to chill beverages and desserts in a jiffy. They add up to another plus in a dramatic demonstration for extra sales.

4 NEW, MAGIC SELECT-O-SHELVES

Make the brilliant new Coolerators as easy to use as they are beautiful. Interiors that are adaptable—adjustable—to ever-changing food storage needs—offer another "closer" for extra-profit sales.

Priced to Sell with the Margin you need for *Profit!*

Four great new Space-Thrifty Coolerators cover every segment of your market. They range from a value packed 7½ cu. ft. full-length "leader" model sensationally priced at $189.95 to a deluxe 9¾ cu. ft. refrigerator. Model for model they are featured and priced to meet any competition. They offer exactly the right ratio of extra features in terms of dollars to make profitable step-up selling natural and easy.

But regardless of whether you sell the top-of-the-line or a "leader" model—your margin is adequate to assure you the profit you need.

NOW

7-HEAT PUSH-A-BUTTON COOKING AT A NEW LOW PRICE

The world's most wanted features at a price that's right for modest budgets. That's a combination which makes the deluxe fully-automatic Coolerator Regal at only $279.50 the "hottest" model in the industry. Six other great Coolerator Electric Ranges in both Push-A-Button and Rotary Switch models offer the ideal selection.

THE COOLERATOR COMPANY • DULUTH, MINNESOTA

Chicago Offices—11-107 Merchandise Mart

Copyright 1950, The Coolerator Co.

GET FASTER TURNOVER IN YOUR FAN BUSINESS

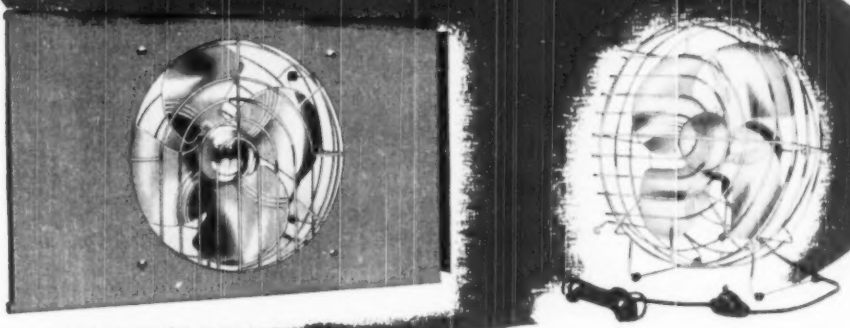
SELL

Dominion

TRADE MARK

A Complete Fan Line

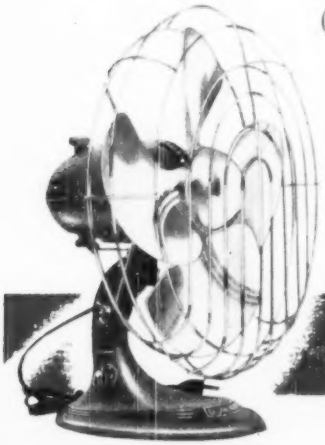
DESK TYPE · PEDESTAL · VENTILATOR



(MODEL 2019) DUAL PURPOSE VENTILATOR FAN

This newest and promising addition to the Dominion fan line is a 12" combination window ventilator, desk and portable model. It adjusts to any size window from 24" to 36" wide -- goes in either upper or lower part of window -- will completely change the air in an average room every 2 minutes. Quickly converted into portable, desk-type fan by simply removing four wing nuts.

Note attractive styling, modern air-flow blades. Equipped with heavy-duty, 4-pole induction type motor -- non radio-interfering. This versatile fan offers wonderful sales opportunities. *Send for attractive four-page folder giving full specifications on entire fan line!*



(MODEL 2020) 12-INCH, 2-SPEED OSCILLATING

Taking a rightful place beside the best fans on the market, this handsome, two-speed, 12" oscillating fan is representative of the beauty and style in the full line of Dominion 8", 10" and 12" desk-type, pedestal and ventilator fans.

Typical of the value built into the line is the 4-pole, induction type motor, standard on all 10" and 12" Dominon fans. For years Dominion fans have been giving superior service -- earning substantial profits for Dominion dealers.

DOMINION ELECTRIC CORPORATION
MANSFIELD, OHIO

A complete line of table appliances and fans . . .
available through reputable distributors across the nation

NOMA is always FIRST

st with new products

Year in, year out, you can depend on **NOMA** to bring out the *sales-tested* new items that are sure to sell.

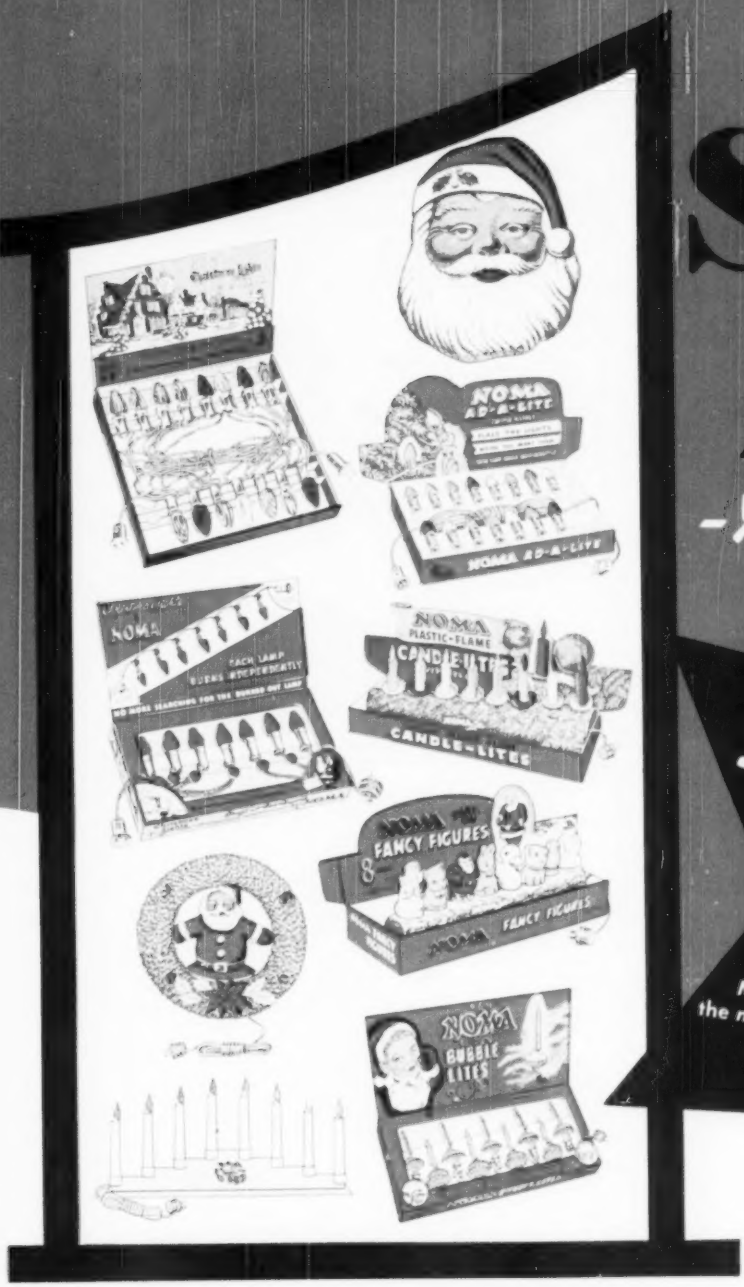
st in consumer acceptance

25 to 1

NOMA is the *only* name in Christmas lighting consumers really know—proved by impartial survey.

st with sales helps

NOMA backs the dealer with effective point-of-sale material and the biggest national advertising campaign in the industry!



1st in Sales

—YEAR IN, YEAR OUT!

See you at the

Toy Fair

March 6 to 17. Be sure to see the new 1950 NOMA line — East Room, First Mezzanine, Hotel McAlpin.

NOMA

ELECTRIC CORPORATION, 55 W. 13th St., New York 11, N. Y.

R&M FANS for '50
...the line with sales FOLLOW-THROUGH!

52 MILLION MESSAGES IN THE POST AND COLLIER'S!

Yes, sir! An ad a week for ten solid weeks in the big, believed, beloved *Saturday Evening Post*. Plus a four-week "bonus-blast" in courageous, convincing *Collier's*. Here's beautiful, *quality* merchandise that is *priced right*—promoted to the hilt for bigger and better dealer profits!

MOTION DISPLAYS THAT MOVE MERCHANDISE!

Two sure-fire *stoppers* for window or floor display. Fan does all the work—produces motion that attracts, interests, convinces. Cute, yes, but with real "come-on." Let these animated beauties do the job of show 'em . . . tell 'em . . . sell 'em!

GENEROUS CO-OP PLAN!

Funnels the pressure of R & M's huge national advertising campaign right into your store. Truly liberal, local, tie-in promotion. A plan that really bolsters limited advertising budgets!

SALES PROMOTION WITH SOCK!

Colorful consumer folders, window streamers, complete newspaper ad mats, fan cuts—all with a whale of a wallop—all free! Yes, new R & M Fans for '50 are the ones with sales FOLLOW-THROUGH!

BUT YOU HAVE TO STOCK TO SELL!

R & M Fans for '50 are the finest we've ever produced. And we're backing them, as you can see, with powerful promotion galore. But you can't sell what you don't have. So order stock from your R & M Fan distributor now and get all the sales helps that go with R & M Fans for '50—the line with sales FOLLOW-THROUGH!

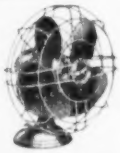
ROBBINS & MYERS, INC.
SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO

"PEDESTAL"

Adjustable height, 58" to 62" from floor to center of fan. Beautiful gunmetal finish. Telescoping, chromium-plated and gunmetal column. Wide, quiet blades deliver 1500 cubic feet of air per minute. Fully enclosed oscillating mechanism. Guaranteed 5 years. 16", 2 speeds, **$57.95**, retail.

"QUIET"

Wide-blade, powerful oscillator at a popular price. Delivers up to 1500 cubic feet of air per minute. Handsome bronze-lacquer finish. Sturdy die-cast body and base. In 10" and 12" blades, guaranteed 1 year, 16" size, guaranteed 5 years. Two speeds on 12" and 16" sizes. With wall hanger bracket, from **$15.95**, retail.

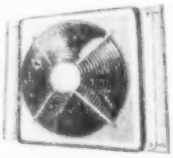


"QUIET DE LUXE"

Large, ultra-quiet, overlapping blades. New gunmetal-enamel finish. Cadmium-plated guard. Die-cast body and base. Oscillating mechanism fully enclosed. Delivers up to 1700 cubic feet of air per minute. Guaranteed 5 years. In 12" and 16" blades. Three speeds. Has hanger attachment concealed in base. From **$41.95**, retail.

"BREEZE-ALL" FLOOR FAN

Durable, mottled-mahogany plastic cover and metal band. Chromium-plated legs and grille. Safe from top, bottom, sides. Delivers a whopping 3500 cubic feet of air per minute. Doubles as extra seat or table. Extra-low-cost operation. 12", 3 speeds, quiet. Guaranteed 5 years. **$46.95**, retail.



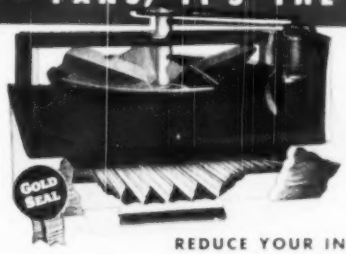
"WINDOW FAN"

Fits any window up to 35" wide. Ideal for renters and home owners alike. 28" blades deliver 4250 cubic feet of air per minute—the equal of many *attic* fans! 18" size is *electrically reversible* to draw air in, push air out. Ivory enamel. Ultra-quiet, 2-speed, rubber-mounted motor. 1-yr. guarantee. From **$54.95**, retail.

BIG NEWS for '50

NEW Prices!...NEW Models!
NEW Profits!

FOR THE BEST IN EITHER HORIZONTAL OR VERTICAL FANS, IT'S THE SILENT BREEZE "GOLD SEAL"



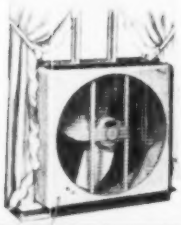
The Silent Breeze "Gold Seal" is the most versatile fan on the market today. It is perfectly engineered for either horizontal or vertical installation. Fan and motor "lubricated for life". Completely automatic ceiling shutter and time control optional. Designed for quick, easy installation. In all sizes for homes, business houses and factories. A big profit maker because Silent Breeze "Gold Seal" moves fastest from your floor. Order NOW!

REDUCE YOUR INVENTORY, STOCK ONE FAN FOR HORIZONTAL OR VERTICAL INSTALLATIONS • ORDER THE SILENT BREEZE "GOLD SEAL" TODAY!

FOR THE BEST AT A SAVING IT'S THE VERTICAL SILENT BREEZE "STANDARD"

The Silent Breeze "Standard" is a fan of equal quality to the "Gold Seal". It moves the same amount of air but is designed for vertical installation only and has a sleeve bearing motor, which requires occasional lubrication. Stocked with these two exceptional lines you can successfully sell against both quality and price for any type of installation. ORDER NOW!

24" WINDOW FAN



An amazingly compact, marvelously efficient "over the counter" item. Light in weight, it can be installed by the purchaser. Extends only 3½" from window sill. Two speed switch. Sturdy, dependable, it is a fast selling item for small homes and apartments.
ORDER NOW!

SILENT BREEZE . . . A sensation in ventilation with a sensational plan for you!

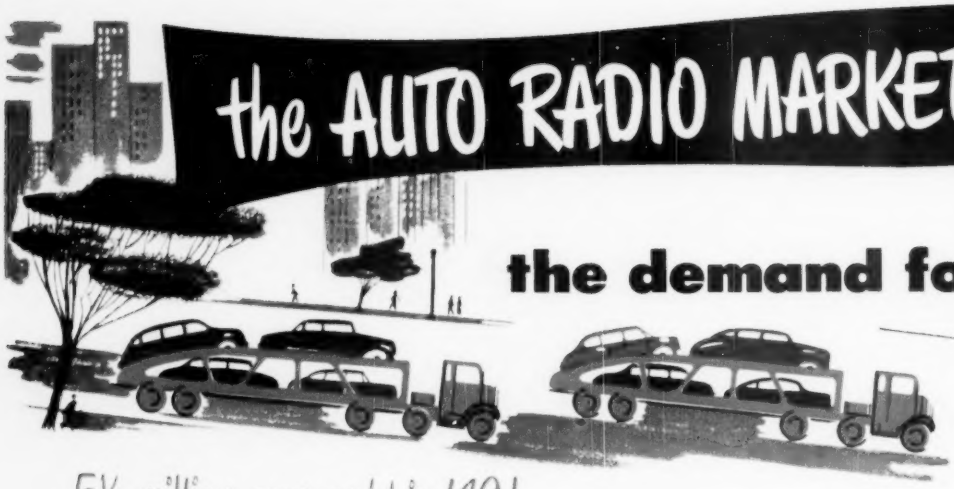
- JOBBERS! Stock up NOW . . . pay LATER!
- Revolutionary new prices will amaze you.
- An aggressive, new merchandising policy.
- Stock the Silent Breeze line NOW . . . and put your profits "in the bag for '50"!

DEALERS . . . Contact your jobber or write us for jobber in your territory

HOLCOMB & HOKE MFG. CO., Inc.
1545 VAN BUREN ST., INDIANAPOLIS 7, INDIANA

Silent Breeze
VENTILATING FANS
VENTILATION PLUS COOLING WITH AIR IN MOTION

the AUTO RADIO MARKET



the demand for

5½ million cars sold in '49!

Out of this overwhelming figure a gigantic market is yours for the taking! One big-three manufacturer reports that 75% of their lower priced cars are shipped *WITHOUT* RADIOS. By an average of the four post-war years for *all* models of cars made by this manufacturer, the number of cars shipped without radios totals 85%! This added to other production figures from the auto industry represents a terrific market for America's favorite auto radio—Motorola, of course!

Again this year Motorola development, design and production of auto radios lives up to the Motorola tradition of high quality. Again, tireless product research combined with mature engineering techniques pay off for you—pay off for your customers! Unfailing power, 3-dimensional Golden Voice tone, and precision construction that minimizes servicing are the qualities your customers seek in auto radios. Feature Motorola and you feature these profit-producing qualities!

40 million families read about Motorola every month!

And they're *buying* families every one! They're the people who read such powerful national magazines as LIFE, THE SATURDAY EVENING POST, COLLIER'S, TIME, NEWSWEEK, LOOK, NEW YORKER, NATIONAL GEOGRAPHIC, SUNSET, COUNTRY GENTLEMAN, FARM JOURNAL, SUCCESSFUL FARMING and others—*believed in* by folks in all walks of life. Tie-up with Motorola—a product that's *believed in*—backed by big-name national publications!

for more sales, contact your Motorola distributor today!

the BEST is now BETTER than ever before

is BIGGER THAN EVER!

Motorola is tremendous!

new 1950 models are the best ever

. . . **WITH SELLING FEATURES GALORE!** Motorola—with more "FIRSTS" than any other, now presents a brand new line for '50! Always the standard for the industry, the new Motorola auto radios give your customers an even greater measure of value for their radio dollars . . . and promise you a year 'round source of easy sales and trouble-free profits! Action now will ring your register later!

use this display-demonstration board and you'll sell everybody knows and prefers

Motorola RADIOS • AUTO RADIOS TELEVISION

MOTOROLA INC. • 4545 AUGUSTA BLVD. • CHICAGO 51, ILLINOIS

Wallace Herndon, left, of Russellville, Ky., now has 50 rural customers under his wing, and is steadily adding to that number while retaining the old ones through a complete contracting, servicing, and appliance business for the farmer.

RURAL SELLING

. . *Customer services are key to rural appliance promotion*

by Ross L. Holman

WITHIN THE PAST 10 years Wallace Herndon, of Russellville, Ky., has chased REA lines all over his part of Kentucky and gathered more farm customers per mile than any electrical dispenser I ever saw. During that time he has strewed wiring jobs, water systems, electric heat, and other kilowatt service over the countryside and done his part toward rescuing the farmers around Russellville from the lantern-swinging existence to which they have been tied since the beginning of time. He now has over 500 rural customers who cook, pump, refrigerate, warm up, light up, and do other electrical jobs the Herndon way.

Volume in Farm Trade

Herndon's is now installing each year 100 automatic water systems and 15 home heating jobs. He is selling 255 refrigerators per year, 35 home freezers, other appliances, and wiring more homes, barns, and tenant houses than he can remember. He is doing well over $215,000 worth of business per annum. Over 85 per cent of this volume is farm trade. Whenever he sells a farmer the initial wiring job that distributes the power over his premises, he usually holds him as a permanent customer.

Herndon started his business in 1939 on a shoestring and a vision. When REA lines began shattering the darkness of the countryside, he knew that the contractor who wired farm homes for electric current would be the one who would make the first business contact with the farmer for this new service. If he could follow through and sell him the appliances and gadgets he would have to acquire over the years, he would have the jump on other dealers who would have to wait until the kilowatts were turned loose on the premises. So he set up a complete contracting, servicing, and appliance business so the farmer would never have to look elsewhere for anything electric.

Since starting 10 years ago he has developed skilled crews for every type of service. He even took on a full time plumbing crew for the installation and servicing of his water systems so he could have all this work under his direct supervision and not have to depend on outside plumbing contractors who might or might not give him good service. He has extended this plumbing service to the installation of the farmer's kitchen sinks, hot water tanks, and bathroom sets, and sells all the equipment for completely installed jobs.

In offering a complete electric and plumbing service on a package basis, Herndon is naturally in a position to offer the farmer inducements he can't get when acquiring this service from separate contractors, dealers, and plumbers on a piecemeal basis. In wiring a farm home, he makes a complete record of every outlet, switch, and fixture in the home. He has a blueprint of the complete job and knows the layout of the kitchen, bedrooms, etc. If the farmer wants to install a range, water heater, sink, home freeze unit, or whatnot, later, Wallace can check his records and frequently tell him what he can do without making special inspection. In short, he not only has the dope on hand for a quick decision but the appliances and equipment to make a quick estimate on the completed job. His servicemen have frequent access to the homes he has wired and equipped for follow-up servicing, and they almost know the layout of the premises by heart.

Whenever a new REA line is announced, Herndon or one of his representatives gets in a car and heads towards the area the line is to serve. He drives up to each home in turn, congratulates the owner on the fact that he is getting the new service, and sells him on the idea of getting his wiring done by an established contractor.

Customer Services

He frequently has to compete with inexperienced contractors who get there ahead of him and make a bid for the job on a price basis. He has to explain why he has to charge more than the other contractors—better wiring, better equipment, and a complete job that won't be continually giving trouble. Then comes his clincher about how his complete office record of the wiring job, outlets, kind of wiring equipment, etc., will give him an opportunity to advise better than anyone else on all future electrical and appliance needs.

His crews can wire an average of

three houses a day. While the home is being wired, or is on schedule for wiring, he is talking to the owner and his wife about appliance needs and electric service that will give the family a more abundant life. The first thing he urges on them is a refrigerator, of which he sells 225 a year. The next thing is an automatic water system. Then comes a range, hot water, home freezer, hot water system for the dairy, home heating, etc.

Planned Installations

He sells water systems at the rate of about 100 a year. Having done the original wiring job, he will say, "Now, Mr. Black, the next thing you should install is running water. For a 75-foot well pump we will give you an automatic system with water piped to your kitchen for $300." He goes into detail about what equipment it will include so there will be no misunderstanding later. As a further inducement to get the work he tells the customer that, unlike many curbstone contractors who have to have money advances two or three times before a job is completed, he won't have to pay a cent until the job is finished and he is satisfied with the way it is working. He makes the same no-money-until-completed and satisfied proposition on all house wiring jobs.

From an installed house wiring and water system it is an easy step to kitchen sink, hot water tank, bathroom installations, complete electric kitchen, and everything else it takes to make an electrified farm tick. Herndon has pretty well demonstrated that the contractor who makes the initial housewiring contact with the farmer has a golden opportunity to follow through on all the electrical gravy that will materialize after the kilowatts have been harnessed and put to work on the premises.

Home Heating Popular

Another service that Herndon's 500 customers are taking on fast is home heating. The cost of heat installations varies tremendously, depending on the type of home, how well it is insulated, etc., but he told of one old-style 2-story house to which he delivered a complete job for $1,200. The price will usually run from $700 or so for a brand-new house of five small rooms to several thousand dollars for old-style large-room, high-ceilinged residences.

Herndon finds the farmer a fine

(*Continued on page 126*)

Herndon orders refrigerators by the carload, gets the volume advantages, and discounts all his bills.

(Left) In wiring a farm home, Herndon makes a complete record of every outlet, switch, and fixture in the home. Equipped with a blueprint of the complete job, he knows the layout of every room, and can tell the farmer who wants to install an appliance, sink, water heater, etc., what he can do without making a special inspection. (Right) Since Herndon's wired his home, the farmer logically thinks of them in connection with appliances, home heating, i.e., everything electrical for the home. They sell on the average of 35 home freezers per year.

HIRING SALESMEN

This is not a routine task and deserves careful analysis

by J. A. Leach
Vice-President,
Jenkins-Leach, Inc.
Memphis, Tennessee

This is the first of two articles by Mr. Leach, a progressive southern appliance dealer. The second article, "Training Salesmen," which will appear in the April issue of Electrical South, presents his views on the changing conditions in the appliance merchandising field and how these have affected sales training methods.

HIRING SALESMEN is one of the most important jobs a dealer has to do, because, to a large degree, the success of his business depends upon the ability and efficiency of his salesmen. Furthermore, since our success directly depends on the success of our salesmen, it is vitally necessary that we understand proper hiring procedures.

Now there are those who feel that the hiring of salesmen is just a matter of finding someone who looks as though he can sell and will work for the amount of money the dealer can or is willing to spend. But to build the kind of a quality sales organization all of us want, the dealer must do more than this, for when hiring salesmen the dealer must know how to determine the number needed, where and how to find them, qualifications to look for, the selection procedure, and proper orientation.

Each of these points is important for a dealer to consider when hiring salesmen. Now let's take up each point, one by one. First . . .

How to determine the right number of salesmen needed.

Having the right number of salesmen is of first importance. The dealer may get plenty of volume out of his territory, but this is only part of the story. For he may have so many salesmen that none of them can earn a decent living, and the high turnover and the ill will created by men with low income and low morale will more than offset a temporary high volume.

Maximum Volume

On the other hand, if the dealer doesn't have enough salesmen, he can't get maximum volume out of his territory.

Now, of course, there is no cut and dried formula that every dealer can use in determining the right number of salesmen to have. But there are certain guideposts, certain measuring sticks which any dealer can use. Let's see what they are . . .

1. Take the total estimated yearly volume (based on quota).
2. Subtract the dealer's estimated personal sales (if any).
3. Decide how much volume one average salesman can sell.
4. Divide total yearly volume by volume one average salesman can sell.
5. Check and temper the result against . . .
   a. Size and performance of pre-war sales force.
   b. Special characteristics of territory.
   c. Changes in dealer's operation.
   d. Volume necessary for adequate income for each salesman.

Once we know how many salesmen a dealer is going to need, the next question is . . .

Where and how to find potential appliance salesmen.

In the first place, let's consider what we mean by "potential appliance salesmen." Potential appliance salesmen are men who have characteristics and qualifications which indicate that they can be trained to sell our products successfully.

Dealers can find potential salesmen by:

1. Asking present salesmen and other employers to suggest men.
2. Keeping an eye on present service and office personnel.
3. Watching those with whom contact is made in business and private life.
4. Keeping in touch with colleges and business schools.
5. Contacting personnel bureaus and employment agencies.
6. Asking users to suggest men.
7. Keeping a file on those who apply.
8. Advertising.

Now that we have discussed where and how to find potential appliance salesmen, let's consider . . .

The importance of finding men with the right qualifications.

Experience has shown that the practice of hiring men who do not have the necessary qualifications for becoming successful salesmen is a very costly procedure.

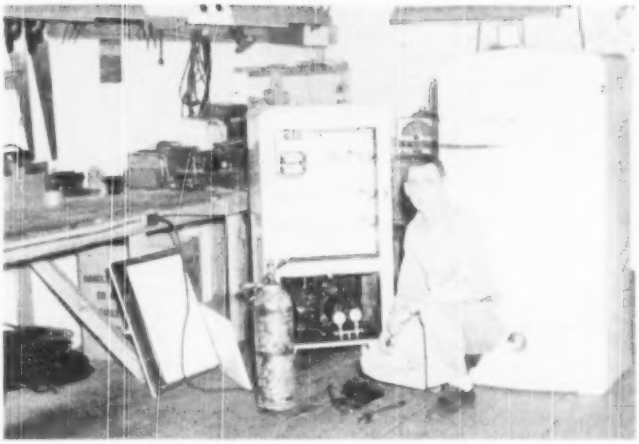
Hiring is an investment; it involves time and expense for . . .

1. Finding potential salesmen.
2. Interviewing them.
3. Equipping them.
4. Training them.
5. Supervision.
6. Compensation while not productive.

Expenses Incurred

These are expenses that many dealers fail to take into consideration. If the new man is on commission basis, some dealers think it doesn't matter too much if he doesn't work out, but the greatest expense is in lost sales and profits, and lost customer good will. These may cost the dealer hundreds or even thousands of dollars a year, all because some of the men hired didn't have the right qualifications to make good on the job. On the other hand, hiring men with the

(Continued on page 126)



"We believe there will always be a market for good trade-in refrigerators," says D. B. Sparks, co-head of Appliance Center, Inc., Henderson, Ky. Behind Mr. Sparks' belief, however, are concentrated merchandising effort, clever promotions, and a large reconditioning shop. A portion of this department is shown here, with Jack Manion, service manager, in charge. Several "gimmicks" for merchandising trade-in refrigerators, included in this article, have proven valuable to the firm.

TRADE-IN SERVICING

Strong market exists for used boxes if properly conditioned

by Robert A. Latimer

PUTTING AS MUCH merchandising effort on rebuilt trade-in refrigerators as new stock, and developing clever promotions to keep the public's attention focused on bargains available at the store, has proven an excellent means of solving the trade-in refrigerator problem for Appliance Center, Inc., appliance dealership located at 227 First St., in Henderson, Ky.

"We believe that there will always be a market for good trade-in refrigerators, so long as they are well reconditioned, guaranteed, and given a doll-up job," says D. B. Sparks, who with H. L. Haber, heads the firm. "This is equally true in the small town and the large city. There are always low income prospects, or people in straitened circumstances, who must 'get by' with a moderately priced but serviceable refrigerator until such a time as they can afford a new box. Therefore, we have carefully cultivated trade-in operations for the past two years and see to it that every customer who has an old box to offer gets an excellent trade-in allowance. As a result, we are constantly offered first-class trade-ins which need a minimum amount of working over, and can keep profits clear on each new box sold."

Appliance Center, Inc.'s trade-in and rebuilt income of Kentucky's most efficient, large reconditioning shops. Occupying 50x50 feet, the shop contains such equipment as a complete parts inventory for all nationally known refrigerators, drill press, punch, lathe, sheet metal shop, paint shop,

(Continued on page 124)

Lee Haber, left, co-head of Appliance Center, Nora Gastenveld, and Mr. Sparks handle resale of trade-in refrigerators, and each of them sees to it that every customer who has an old box to offer gets an excellent trade-in allowance. As a result, they constantly get first-class material needing only a minimum of working over, and can keep profits clear on each sale. Both partners in the firm believe that "trade-ins must be handled to make a success of appliance merchandising under today's — and tomorrow's — conditions."

DISHWASHER SURVEY

Survey among owners and non-owners shows dealers best sales approach for this appliance

How MANY HOUSEWIVES are considering the purchase of an automatic dishwasher? And what are the reasons that will induce them to buy this appliance?

Answers to both of these questions were revealed by *Good Housekeeping Magazine*, recently, in a survey of 16,000 owners and non-owners of automatic dishwashers. The tabulated results included replies from 2,013 of the publication's "Consumer Panel" and 5,770 replies from dishwasher owners.

The most important information, from the dealer's point of view, revealed in the survey is the fact that one-third of the housewives queried are considering buying an automatic dishwasher.

Reasons for Buying

Of those answering the questionnaire, 22.3 per cent gave as their reasons for buying a dishwasher the fact that this appliance saves work, and 19.1 per cent indicated that its value in time saving was most important to them.

Following are some of the other reasons for buying and the percentage of replies that cited them: "sanitary way of dishwashing," 15.5 per cent; "keeps hands out of water," 7.5 per cent; and "dries dishes," 6.9 per cent.

Analyzing the answers, Fred J. Walters, vice-president of marketing at Hotpoint Inc., said that the potential for dishwasher use indicated by this survey and by sales in the post-war period which general consumer hesitation last spring did not slow down justifies the expansion of company facilities and those of other companies. Annual production has jumped 30 times since 1946 and is now running close to 300,000 units a year.

Two prewar manufacturers have been joined by several more who have climbed into the ring, and another dozen have stated their intentions to join in the fray. Hotpoint itself put part of its $50 million expansion funds into building a new plant for automatic dishwashers in Milwaukee in 1948.

The appliance dealer should take advantage of this particularly favorable selling weather for the automatic dishwasher, Walters said. This survey by *Good Housekeeping* should help them because it throws new light on why people plan or do not plan to buy, and what hand dishwashing habits are.

Primary reasons for not planning to buy should not faze many salesmen who know selling principles and the facts about their merchandise. He noted that over a third of the "resisters" said their families were too small to need the appliance. Other answers: no room in kitchen, don't think dishwashers save time, too costly, won't wash pots and pans, don't think dishes get clean, hard on fine china and glasses. The gem of them all but worth considering since 24 per cent claimed it was a major reason was "I don't mind washing dishes."

These answers show the importance of educating the public that dealers have a top quality product for sale which will do the job if used correctly, the official stated. Demonstration is an extremely important phase of this education and sales effort. A check of 1948 buyers backed this up in unearthing a startling 50 per cent who had never seen the appliance in operation before making their purchases.

Results of Survey

Ammunition for advertising and retailers came out of the part of the *Good Housekeeping* survey covering housewife dishwashing habits. "It gives us a pretty clear picture of how our prospects handle the dishwashing chore without dishwashers," the marketing executive said. "Our sales talks can be built around these facts to good advantage."

The respondents agreed that dishwashing was one of the top three on their list of disagreeable household tasks. The other two are ironing and cleaning. For over two-thirds of the families this job comes up three or more times a day. Actual dishwashing takes at least one hour each day plus additional time of 15 minutes or more to get the dishes, pots, and pans ready for the soap and water treatment.

> **"It is going to take concerted action by each manufacturer, distributor, and dealer to get the dishwasher to the point of demand in the sales acceptance curve."**

The job is made even more disagreeable by the inadequate sinks in use. Over three-quarters of them are single compartment types; 60 per cent do not have counter space on both sides of the sink; and a third have only one drainboard. Two out of five sinks are ten to 25 years old. Yet dishes are washed in the sink by 36.7 per cent, in a dishpan in the sink or on the drainboard by 61.3 per cent.

Methods of Rinsing

The survey indicated that almost everyone gives the dishes a clear rinse after washing, some running hot water over them from the faucet, some pouring from a tea kettle, others dipping dishes in a pan of hot water. In practically every case, though, the water is not as hot as that sprayed over the dishes in an automatic dishwasher.

Owners of the appliance were highly enthusiastic, said it was less trouble (some 155.1 per cent) and less time consuming (85.1 per cent) than the hand method. Half the families said it saved from half an hour to an hour a day, and 39 per cent claimed savings of more than an hour a day. Other savings in time and labor turned up in answers. For instance, 42 per cent said they had cut down dishwashing to twice a day and 31.8 per cent to once a day.

Ernie Simonds, right, says his business is getting better and better. How? — radio repairs and service.

SELLING SERVICE

Turn competitive conditions to your own advantage

by David Markstein

"As times get more competitive, our business gets better and better. We are geared for competitive selling."

That's the statement made by Ernie Simonds, owner of the Simonds Radio Store, 5501 Magazine St., in New Orleans, La. A radio maintenance merchandiser who learned competitive sales promotion back in the dog-eat-dog depression days of the thirties, Mr. Simonds has worked out a four-point merchandising plan for making his business "get better and better as the conditions become more competitive."

Simonds Radio has been in business at the same stand (although today it is a vastly larger and more modernized "stand" than it was when Ernie Simonds first opened the doors) in the bustling Magazine Street business district of uptown New Orleans for over 25 years. The store sells new radios, washing machines, refrigerators, and other appliances. But the memories of the Simonds Radio volume is the same mainstay that Ernie Simonds decided upon when he opened a quarter century ago radio maintenance.

"Repairs and service to radio users usually lead to sales of new radios," he says, "and in addition, we have a regular display floor of major and traffic appliances. But our business is built upon radio service." Simonds Radio is one of the largest radio repair and maintenance companies in the South. It is an authorized service station for many national brands, for free repairs during the guarantee period.

Free Guarantee Service

"We try to give the free guarantee service whether a customer purchased the radio here or at another store," Mr. Simonds reports. "We have found it pays us well to get a lot of this seemingly non-paying volume, because these service customers come time later to deal with Simonds Radio and to call upon us when they need service."

That word service is an integral part of Mr. Simonds' four point plan for success under highly competitive conditions. "Service must be prompt, low in price, and easy to get on terms," he says.

The four things which make Mr. Simonds' service business get better as conditions get tighter are:

(1) Efficiency in every step of the maintenance set-up, allowing him to offer good prices and extremely prompt service, coupled with quality work.

(2) Advertising and plenty of it, designed to bring in a large number of calls and shopping trips.

(3) Terms for easy payment of service charges.

(4) Sound, head-lifting salesmanship, and a program for making the store's relations with its customers pleasant.

"The most important thing in this business is efficiency," Mr. Simonds believes. "Without an extremely efficient shop set-up, it is impossible to offer a really competitive price for a good job. And in competitive times, price is an important thing to the people who bring their radios in—or send them in via our trucks—for repair."

Simonds Radio has carried extreme efficiency into every step of its operations. Ernie Simonds has made a study of every procedure, and has applied the methods of efficiency experts.

For example, he notes, "It costs money when a high salaried radio repair man has to waste time looking for things. Furthermore, it slows up the service work. Customers can't get their radios back as promptly as they wish them when the shops are cluttered."

At Simonds Radio, there is a place for everything. "And by gosh, everything had better stay in its place," Mr. Simonds says. Most small parts are kept in glass jars. Advantages, says Ernie Simonds, are easy accessibility and the jars' transparency which allows a hurried repairman to quickly grasp the jar he needs without squatting, stooping, or squinting at labels.

"I'm a stickler for keeping accurate shop records," he says. "Without good records that tell everything, no businessman can know whether he has a sound business or a shaky one. But in addition to giving me the facts at a flip of my thumb on costs, profits, volume, and sales, the records we keep also tell us exactly how many of any given part are on hand at the beginning of each day.

"Good perpetual inventory records make it possible for us to do each job as it comes up. There is no waiting while we frantically telephone a wholesaler to shoot out a needed part which isn't in stock. Nor is there the transportation and time expense of hurrying a truck down to a supplier's warehouse to pick up a needed part. We have them on hand—everything. The perpetual inventory allows us to order what is needed, in the right quantities, long in advance of running out or even running low."

For added repair efficiency Simonds Radio has one room for repair work on radios and television sets and another for repairs on small appliances. There is a separate parts department. This plan makes it possible for the accurate perpetual inventory records upon which Mr. Simonds relies to be kept continually up to the minute.

Simonds Radio's four trucks are each driven by an experienced repairman rather than by a truck driver who is a pick-up man and no more. Small stocks of parts are carried in the trucks. "Routine repairs are made right in the customers' homes," Mr. Simonds says. "They like it—the service is extremely fast, and they can enjoy programs on the air within an hour after they put in a call to Simonds Radio. We like it, too. Saves money for us, because it's cheaper to do the work there than to carry the radio back to our shops, work on it, and then make another trip out to deliver it."

Not all work, of course, can be done in the customers' homes. Only routine service is handled that way; more complicated jobs are taken back to the Magazine Street headquarters where the facilities and stocks are more complete.

To get the calls which keep these trucks rolling, Mr. Simonds uses plenty of advertising. "Advertising, merely as such, isn't enough for booming success under competitive conditions," he points out. "The advertising must be of the right kind. Each ad must pay for itself."

Simonds Radio uses all media: newspaper space, radio time, direct mail, and some outdoor signs. "Of all these media, we have found that newspaper ads and direct mail produce the best results," he reports. "At present, we are not using a great deal of radio time because it has become uneconomical. The radio stations here in New Orleans which have the real coverage have gone up so much in price that the ads there do not pay. But radio—under better pricing conditions from the stations—is a very fine way to get the radio service volume our experience indicates."

Direct Mail Advertising

Most of Simonds' direct mail advertising is in the form of postal cards. "These are inexpensive because the government furnishes both the paper and the postage for only a penny," he says, "and we have to add only the printing and addressing costs to that."

Ernie Simonds has what he believes to be a neat scheme for handling the addressing. "It keeps the addressing costs down, and it builds a wide base of good will for us," he says. The plan involves school children of New Orleans.

"We hire them to do the addressing," he reports. "That keeps our addressing costs from getting too high. And the kids love it, because they can earn substantial amounts of spending money, a fact which makes the parents heartily approve, too. We use boys and girls from various schools to handle the addresses in their neighborhoods."

The payoff is in what the cards say, however. "In these days, they have to tell people about how easily they can have radios repaired," Ernie Simonds says, swinging into the third

(Continued on page 124)

"Service must be prompt, low in price, and easy to get on terms," says Ernie Simonds. (Left) For promptness, there is a place for everything in the repair departments — most small things are kept in glass jars and pigeon holes, visible at the left of this repairman. (Right) Mr. Simonds has worked out a well-detailed plan of promotions, customer relations, and actual "service" on repairs so that time and effort is spent effectively in getting new customers and keeping the old ones.

CLEVER MERCHANDISING

by Robert A. Latimer

Appliances in the salesman's home improves his technique

Salesmen have the same appliances in their homes that they demonstrate and sell to customers.

SEEING TO IT that every salesman has first-hand familiarity with every appliance he sells through steady use in his own home is a simple policy which has led to appliance merchandising supremacy for Boddie-Johnson, Inc., appliance dealers of Montgomery, Ala.

The Boddie-Johnson firm built one of Alabama's most beautiful appliance showrooms in 1946, when the company expended $15,000 to remodel a former restaurant into a "house of glass" on the corner of Montgomery and Moulton Avenues in downtown Montgomery. With the store passed by many thousands of shoppers daily, the all-glass front, extending around the left side of the building and back 25 feet, has proven an effective "stage" for a continuous program of appliance demonstrations. Shown in the glass-enclosed area are demonstrations of sit-down ironers, automatic home laundries, methods of storing foods in home freezers, fresh-food packed domestic refrigerators, etc.

During the Christmas season, a mezzanine balcony included in the store is transformed into Montgomery's largest "Toyland" with a $3,000 stock of wheeled goods, toys, novelties, etc., to bring in hundreds of local youngsters and their parents.

Upon setting up the appliance store, partners Emory Johnson and Henry Boddie, heads of the firm, determined to eliminate in advance many of the drawbacks to present-day appliance retailing. Thus, when the first specialty salesmen were hired, each wrote his own ticket as to methods of payment, his selling specialties, etc. As a result, the store has two full-time specialty salesmen who are floor men, paid on a combination salary and commission plan. Another is a full-time outside man, paid a straight 10 per cent commission on all appliances he sells, and receiving leads from newspaper advertising, the floormen, satisfied users, etc. Over the sales crew is John Bishop, a veteran specialty man, who likewise rings doorbells in addition to acting as store manager.

With this four-man crew, the Boddie-Johnson store last year sold one of the state's most remarkable appliance volumes, amounting to more than 500 refrigerators, close to 400 gas and electric ranges, a commensurate amount of automatic home laundry equipment, 15 package kitchens, and most surprising, more than 50 home freezers.

Prospect Sales Ratio

"In most instances, we sold all of the appliances we were able to obtain from suppliers," Mr. Bishop indicated, "and could probably have moved much more, with more adequate sources of supply."

Largely responsible for the excellent ratio of sales per prospect in the Alabama store is the clever plan whereby Mr. Bishop sees to it that almost every salesman uses the appliances he sells.

Under this system, each salesman is given huge discounts to encourage him to install in his own home refrigerators, home freezers, automatic laundries, etc., which he personally operates in everyday living, in order to pass along more intelligently the assets of such appliances to his prospects.

"Naturally, we have not been able to get every salesman to install everything we sell," Mr. Bishop smiled. "However, through four homes we have been able to install home freezers, refrigerators, package kitchens, electric blankets, radios, etc. Each salesman is encouraged to add all of

(*Continued on page 122*)

The glassed-in store front of this Alabama firm doubles as a stage for appliance demonstrations. Inside, a mezzanine balcony adds depth to the store and increases usable floor space.

COLOR TELEVISION

Non-technical answers to some typical questions

THE Federal Communications Commission's extensive hearings on color television have led many to ask, "When will color television be available?"

The Radio Manufacturers' Association here presents the latest information on that question, as indicated by testimony presented to the FCC.

Question. Can television broadcasts be made in color?

Answer. Yes. Color pictures have been transmitted experimentally, in laboratories, as far back as 1928.

Question. What are the principal issues which the FTC must decide?

Answer. (1) Is research in color television sufficiently advanced to offer commercial color broadcasts to the public?

(2) Shall color, when approved by the FCC and offered to the public, be broadcast on a fully "compatible" basis—that is, will owners of sets in use at the time still be able to get black-and-white pictures from color broadcasts without any change in their existing receivers and without any reduction in the quality of the picture?

Question. How many color systems are under discussion at the hearings?

Answer. Three. The Columbia Broadcasting System has proposed a "mechanical" system similar to one offered at prior FCC hearings in 1946, but with certain refinements. The Radio Corporation of America has proposed a newer, all-electronic system, based on scientific principles not fully developed in 1946. Color Television, Inc., of San Francisco, also has presented data on still another all-electronic system.

Question. Are other color systems possible?

Answer. Yes, numerous other systems are theoretically possible. Interesting developments have been described by Dr. Charles Willard Geer, of the University of Southern California, and by a group of scientists at the Rensselaer Polytechnic Institute. Additional research is going on in laboratories all over the country.

Some of the systems which are still on the drawingboard may have features substantially superior to any so far announced.

Question. What are the important characteristics of the systems currently under consideration?

Answer. The RCA system is all-electronic, and uses broadcasting standards that are basically "compatible" with those used for black-and-white transmission.

RCA Color System

On the basis of engineering principles involved, the color pictures broadcast by the RCA system should be equal in quality to those now broadcast in black-and-white. The system is still so new that RCA engineers state that further laboratory experimentation is necessary to bring the system up to its commercial potentialities.

The CTI (Color Television, Inc.) system, like RCA's, is all-electronic and is basically compatible with existing broadcasting standards. In other engineering particulars, however, it is substantially different from the RCA proposal. It, too, is subject to further laboratory development.

The CBS system is based on revolving color-filter disks, both in the camera and in the receiver. Essentially, it is a mechanical rather than an electronic, system. Its signals must be transmitted on standards which conflict with existing standards for black-and-white. It is, therefore, "non-compatible."

While numerous changes have been made, the current CBS system is basically the same as the system demonstrated to the FCC during the 1946 hearings and rejected. Since it was begun earlier, there has been more opportunity to develop broadcasting and receiving apparatus than with the RCA and CTI systems.

Objections to the CBS system voiced at the hearings encompassed, in general, the following points:

1. The non-compatibility of the system would mean that every existing television set (estimated at nearly 8,000,000 by the end of 1950) would have to be "adapted" before it could receive any picture, even in black-and-white, from a color broadcast. This would require present set-owners to invest additional money simply to maintain the same television service they now have. This seems manifestly unfair.

Limited Audience Possible

If any large percentage of the 8,000,000 owners should not adapt their sets, the audience for color broadcasts would be so limited at the outset that few broadcasters or advertisers could afford to put color programs on the air. Thus the growth of color television would be substantially handicapped by the adoption of any non-compatible system.

2. Pictures broadcast over the proposed CBS system would have a "definition" of only 405 lines, as compared with 525 on existing broadcasts. CBS officials have conceded there would be a 45 per cent reduction in the ability to portray detail—a step backward as far as picture quality is concerned.

3. The CBS system is inherently limited in the size of direct-view picture tube that can be used.

Cabinets must be large enough to contain a spinning color disk more than twice the diameter of the picture tube, plus a motor to turn it. For that reason, table models could use nothing larger than 7-inch tubes, and even console models would be limited to 12-inch tubes. (CBS proposes the use of a magnifying lens to

make the picture seem larger, but such artificially blown-up pictures have not been popular on black-and-white sets, and no manufacturer now uses or recommends magnifiers.

This limitation on size would be another step backward, for in black-and-white television the trend is strongly toward 16-inch and even larger tubes.

Question. Why shouldn't we go ahead with some of the systems now, trusting the scientists to overcome any existing weaknesses as we go along?

Answer. The majority of the television set manufacturers, expressing their opinion through the Radio Manufacturers Association, have urged that no color broadcasting "standards" be approved by the FCC until the proposed systems have been thoroughly field-tested. This is the only way to determine whether color reception is basically satisfactory under every-day conditions, as contrasted with the carefully controlled demonstration set-ups which have been used so far by all the sponsors.

Tests on Proposed Systems

The FCC has asked that such tests be made on each proposed system, but it will be some time before these can be completed.

Question. If color television were introduced now and the initial standards proved unsatisfactory, would it not be possible to change them later on?

Answer. No. Once basic standards are set, they cannot be changed without involving obsolescence of every piece of transmitting equipment and every receiving set then in existence.

An analogy may help to clarify this. All railroad cars in the United States have wheels that are "standard" gauge — i.e., 4 feet, 8½ inches apart. An engineer might find that a better car could be built if the wheels could be placed 5 feet, 6 inches apart. But nothing could — or would — be done about it. The new type of car could not run on existing tracks. And if the tracks were moved farther apart, then all existing railway cars would be obsolete overnight.

Thus, when standards are set, all future improvements must be within the framework of those standards. That is why it is so important that the original framework be a sound one, suitable for use for years to come.

Color television will need not one, but a dozen or more such standards. Inasmuch as the whole future development of the art must fit into the pattern thus established, the harm that could be done by over-hasty action is apparent.

Question. After color television becomes available, will all broadcasts be made in color?

Answer. No, for reasons parallel to those in the motion picture industry, where at least 85 per cent of all feature pictures are still produced in black-and-white even though Technicolor was developed years ago. There will be many programs for which the extra cost of color simply will not be justified.

Question. After color is authorized, will all new receiving sets be equipped to receive it?

Answer. Again, the answer is "no." Color receivers always will cost more, since they must contain everything needed in a black-and-white receiver, plus something extra to give the color. Inevitably there will be large numbers of people to whom the extra pleasure provided by color will just not be worth the extra money involved.

Question. What procedure is recommended for developing commercial color television as quickly as possible?

Answer. The Radio Manufacturers Association's basic policies with respect to color television are printed at the bottom of this page.

Recommended Procedure

Applying them to the situation we find today, a procedure somewhat as follows seems desirable.

1. The FCC should encourage continued development of all color systems which are or which can be compatible, and which can produce pictures of a quality at least equal to today's black-and-white.

2. On the initiative of the Radio Manufacturers Association, a group of the nation's leading television experts — including representatives of set and and equipment manufacturers, broadcasters, and qualified technical organizations — has been organized as a National Television System Committee. This committee is analyzing various proposals and will conduct tests on each system. When testing is completed, the NTSC will prepare and submit to FCC a set of proposed standards for color broadcasting.

(*Continued on page 122*)

Color Television Recommendations of the Radio Manufacturers Association

1. **RMA recommends that color television be made available at the earliest practicable date consistent with the establishment of sound standards.**
2. **RMA urges the Federal Communications Commission not to approve final standards until adequate field and practical home tests—which have not yet been made—establish their soundness so that the public may buy with the assurance that the system is permanent and that further experimentation will not be done at their expense. Pending adequate testing, RMA does not recommend any particular system.**
3. **RMA urges that such color television be based on the compatible principle by which programs transmitted in color may be received in black-and-white on the millions of receivers now in public use without modification cost or inconvenience to the public and without degrading the quality below that of present pictures. RMA is confident that the combined knowledge and ability of the industry as a whole can produce a set of standards for a compatible color system to equal quality to present black-and-white.**
4. **RMA recommends the immediate lifting of the freeze on commercial television applications. It believes that, while the initial freezing was proper, technical progress and information presently available have eliminated the need for any longer withholding television service from the remainder of our country. The allocations in the ultra high frequencies (UHF) should proceed with all practicable expedition, and very high frequency (VHF) allocations should be made promptly.**

PROMOTIONAL PROGRAMS

. . Some practical methods of extending your prospect lists

by Frances J. Black

WITH THE IDEA in mind of reaching as many people as possible, exclusive of floor traffic and prospects contacted by salesmen, two Jacksonville, Fla., dealers are staging extensive promotional programs.

These two dealers, Heat & Cold Equipment Co., 613 Laura St., and Harold W. Ashley Co., Inc., 1636 Hendricks Ave., are two who are attempting to keep their names before the public, and not merely by cut and dried advertising. Their promotions have a definite interest provoking twist.

Small Appliance Promotion

F. C. Smith, Jr., owner of Heat & Cold Equipment Co., plans all of the promotions used by his store. A promotion currently on tap is the plan to give a small appliance each week.

This plan stems from the fact that when a prospect enters the store, the salesmen often cannot get his or her name and address, and without that, they hesitate to turn on the sales talk. They like to have the last crack at a prospect, thereby heightening the possibility of a sale. When they lack the name and address, they have no follow-up potential, and the customer can use the information quoted her to compare with another dealer's prices and jack them up.

Therefore, to offset this problem, a small appliance to be given away each week will be announced in all Heat & Cold newspaper advertising, regardless of the product being advertised. The reader will be required to come to the store to register for the appliance, and that way the store gets a multitude of new prospects, complete with names and addresses, a lot of profitable good will, and even more store traffic!

A freeze promotion currently being used by other dealers throughout the South, was given a new twist by Heat and Cold when they handled the promotion by tying in with Foremost Dairies in Jacksonville. Keys which would unlock freezers in both branch stores were distributed by the milkmen to customers on routes picked out by Heat & Cold Equipment Co.

A limited number of keys were given out per day, with a total number of 6,000 keys being passed out in 30 days. The response was tremendous, as 3,000 people came in to try their skill at unlocking one of the freezers.

If the prospect was able to unlock the freezer, he or she received a frozen chicken dinner, a quart of Foremost ice cream, a cake, loaf of bread, etc., plus being eligible in a contest to win the freezer. All 3,000 people who tried their keys in the locks were eligible for the freezer.

Tie-in Promotion

Another tie-in promotion with Foremost Dairies is being planned by Mr. Smith. This tie-in is based on the fact that most milk drivers generally want to talk to their customers, anyway, in an effort to build up milk sales and get themselves commissions. The milkmen mention to their customers that if they sell a certain amount of milk, they will receive an appliance prize from Heat & Cold. This is beneficial for both concerns, as it inevitably sells more milk for Foremost and more appliances for Heat & Cold.

Cooking School

The other promotion-minded dealer, Harold W. Ashley, recently cooperated with five other Jacksonville dealers in staging a cooking school lasting two days, and held at the Florida Theatre. Around 4,000 attended, attracted mainly by the newspaper advertising furnished by a manufacturer, and run about a week before the school was held. About 40 baskets of food were given to housewives attending, along with two ranges and other appliances.

Attendance Cards Valuable

The women attending the cooking school were required to fill in a card upon entering the door, stating which appliance she would be interested in buying next, plus her name and address. These cards were later prorated between the five dealers, with each receiving about 800-1,000 cards. Cards specifying interest in a new appliance and those not specifying were separated, and divided equally among the dealers.

Another extensive promotion participated in by Harold W. Ashley Co., in co-operation with several other dealers, was the radio show, "Cinderella Weekend." The show was

(*Continued on page 122*)

Sale to Remember

AN INTERESTING and unusual "Sale to Remember" was reported recently in the "Sales Log," issued by Georgia Power Co., and edited by Warren Bateman.

A lady with her little boy of about 10 years and a daughter even younger came into the Main Store the other day "to look at some refrigerators."

Edna Wallace, saleslady, took the two in tow, but every time Edna started unreeling the advantages of a refrigerator, the little boy halted her with questions. Edna's soft answers only brought on a flood of new inquiries. The mother smiled apologetically each time, and Edna made brave new starts that were always blocked by the limitless curiosity that little boys have.

If this keeps up, thought Edna, we shall never get anywhere. If only he would keep quiet for just five minutes!

Then the mother felt she owed the saleslady an explanation. "You see," she said, and there was great pride in her voice, "he is buying the refrigerator. He raised two calves and sold them. He wanted to buy himself a pony, but he decided I needed a refrigerator more than he needed a pony."

The little boy just wanted to make sure that his mother was getting the very best refrigerator he could buy for her!

This is National Electric Housewares Week

APRIL 14-22

NEMA display materials kit make tie-in easy for dealers

By now, most people affiliated with the electric housewares industry have at least heard rumors of a potential "billion-dollar baby" and the special "Week" commemorating the birth of this lusty infant. The "baby" itself is the tremendous potential business represented by *Electric* Housewares—those appliances which can and should represent a total yearly business of one billion dollars! The Week—National *Electric* Housewares Week—has been set for April 14-22, 1950.

Plans for the Week are well under way. A plan book, just off the press, is being mailed by the Electric Housewares Section of National Electrical Manufacturers Association, to three thousand electric housewares distributors. It gives, as per its title, "Instructions for the Care and Feeding of Your Billion-Dollar Baby," and covers all the necessary steps for participating retailers.

The plan book goes into the A-B-C's of National *Electric* Housewares Week, makes definite, helpful suggestions for putting this Week across, with the ultimate aim of increasing electric housewares sales in the first six months of the year to the usual level of the last six. By this means the goal of a billion dollar yearly volume in these appliances can be achieved.

To the public the opening gun of the campaign will be a full page advertisement in full color in the April 15 issue of the Saturday Evening Post—reaching millions of people, acquainting them with National Electric Housewares Week—actually inviting them into dealers' stores through offer of an action-provoking "Check List"—a special traffic-building "hooker."

Promotional Materials Available

Complete kits of material will be offered by the distributors to help make this Week a success in every retailer's store. This material includes a 4-color window display that is a real "stopper," tying the store in with the national advertising. There are also window streamers, counter cards with easel backs, and a plentiful supply of the "check lists" described in the national advertising, for distribution by retailers to customers who come in.

There are retail newspaper advertising suggestions, slogan mats for dealers to use in their own advertising or other printed material. Also included are suggested radio spots in various lengths from 15 seconds to a

(*Continued on page 121*)

This full color advertisement will announce Electric Housewares Week to millions of readers. The action-provoking check list will emphasize the many spots in the home where electric housewares make their contribution to pleasant, comfortable living. The heading of this article reproduces the window streamer available for dealer use.

CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on page 50)

1002—Propeller Fans. Application of propeller fans for solving ventilating problems in industrial, commercial, and institutional buildings is described in a 12-page booklet, Bulletin 3146, "1001 Ventilating Problems Solved," available from Ilg Herman Nelson Corp., Moline, Ill.

1003—Air Conditioning Equipment. New Bulletin No. 3158-B, "Central Air Conditioning Equipment," contains comprehensive information on this type of equipment along with charts, specifications, and maintenance instructions. The bulletin has been released by Buffalo Forge Co., P. O. Box 985, Buffalo 5, N. Y.

1004—Renewal Parts. A 16-page booklet, "Renewal Parts for Fans & Appliances," illustrates and lists parts available for appliances of several manufacturers for whom Reading Electric Co., Inc., 102 Park Row, New York 8, N. Y., are authorized distributors of appliance parts.

1005—Automatic Toasters. Latest illustrated catalog sheets on Toastswell electric appliances, including two- and four-slice automatic toasters (both domestic and commercial types) and new Toastswell bun warmer featuring moisture control and removable enclosed heating element are available from The Toastswell Co., 620 Tower Grove Ave., St. Louis 10, Mo.

1006—Water Heaters. An illustrated folder describing Bell Water Heaters and the ten-year guarantee and warranty is available from Adacar Mfg. Co., Napier Field, Dothan, Ala.

1007—Room and Unit Heaters. Electromode Corp., 45 Crouch St., Rochester 3, N. Y., has announced two new catalogs, each of which contains descriptions, complete specifications, illustrations of the units, and shows typical installations, as well as other helpful information concerning heating by electricity. Catalog EC-62 is the industrial catalog, and No. EC-63 is the domestic catalog.

1008—Hot Water Heaters. Informative and well-illustrated data are available from M. M. Hedges Manufacturing Co., Inc., Chattanooga, Tenn., on their line of Mertland Automatic water heaters.

1009—Home Freezers. Full information on the Orley Sixteen, with a 16 cubic ft. capacity, and the Orley Super-Seven, with a 7½ ft. capacity, is available from Orley Freezers Inc., 475 Schaefer Road at Oakwood, Detroit 25, Mich.

1010—Electric Fans. A 28-page, profusely illustrated booklet describes in complete detail, this company's line of fans. Booklet available from Emerson Electric Manufacturing Co., St. Louis 21, Mo.

1011—Seco Fans. New bulletins by Seco-Lite Manufacturing Co., 4916 Easton, St. Louis 13, Mo., are now available, illustrating Seco Belt-Driven cooling fans and window fans. Bulletins contain data on installations in homes, apartments, commercial, and industrial applications.

1012—Window and Attic Fans. A four-page catalog piece completely illustrated and containing descriptive information on the new low cost "all in one package" window and attic fans has just been released by the Viking Air Conditioning Corp., 5601 Walworth Ave., Cleveland 2, Ohio. Illustrations of automatic ceiling shutter and automatic electric timer are included.

1013—Electric Water Heaters. New specification sheets are now available for a full line of cylinder and table top models, featuring the Water Hotter, from the White Products Corp., Middleville, Mich.

1014—Heaters and Circulators. The complete line of Minar Products, Inc., Brooklyn 5, N. Y., is included in a folder which gives specifications, features, and prices of all Minar heaters and air circulators.

1015—Fans. Catalogs Nos. 863 and 864, just issued by Chelsea Fan & Blower Co., Inc., 1206 Grove St., Irvington 11, N. J., include descriptive copy, specifications, dimensions, photographs, etc., of a full line of fans for residential, commercial, and industrial uses. These catalogues include information on 17 types of ventilating and comfort cooling equipment varying in size from 12 inches to 60 inches.

1016—Electric Fans & Drills. Signal's complete line is shown in a new catalog just off the press, featuring a wide variety of desk, pedestal, exhaust, and vent fans. Literature on drills, telegraphic equipment, and motors is also available from the Signal Electric Mfg. Co., Menominee, Mich.

1017—Electric and Gas Water Heaters. Four page illustrated folders explain outstanding features of Fowler water heaters including porcelain lining, "black heat" elements, and 3-way insulation. These folders list specifications, dimensions, and construction details, and are available from Fowler Manufacturing Company, 2545 S. E. Gladstone St., Portland 2, Ore.

1018—Electric Flat Irons. Full information on American Beauty Electric Flat Irons in a weight, a shape, a size for household, as well as every industrial and manufacturing use, is available in literature from the American Electrical Heater Company, Detroit 2, Mich.

1019—Fans. Colorful literature describing the new spring-suspended silent window ventilating fans and table air circulators to be featured in 1950 are now available from the Fan Division, International Oil Burner Co., 3802 Park Ave., St. Louis, Mo.

1020—Murray Ventilating Fans. A set of specification sheets is available describing the Murray line of fans, including 20- and 24-inch window fans and vertical and horizontal ventilating fans. H. C. Biglin Co., Inc., 177 Harris St., NW., Atlanta 3, Ga., is exclusive sales agent for the line which is manufactured by Murray Co. of Texas, Inc.

ELECTRICAL SOUTH,
806 Peachtree St., NE **March, 1950**
Atlanta 5, Ga.

Gentlemen:

Please send me bulletins indicated below.

No..... No..... No..... No..... No.....
(Print Plainly)

Name..... Title.....

Company.....

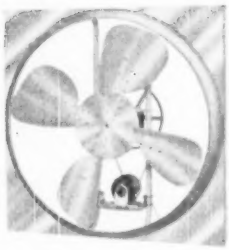
Address.....

City & State.....

Murray

A COMPLETE LINE OF FANS OFFERS YOU YOUR BEST SALES OPPORTUNITY!

JOBBERS—You can handle this complete fan line knowing you are selling the best. A few territories are available. Write for details and full information.

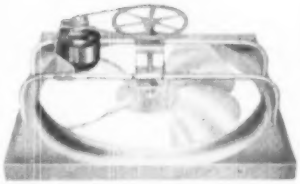


Here's a vertical mounted horizontal discharge attic fan built to stand the rigors of home and industrial use with many years of carefree operation. This is the only fan manufactured that carries a lifetime guarantee with the exception of the belt and motor. Built in sizes of 24" equipped with 1/3 hp motor up to and including 48" equipped with 3/4 hp motor.

This fan has heavy gauge steel housing, with frame of one inch seamless tubing, die formed. The blades are Torrington PATENTED die formed statically and dynamically balanced. The bearings are especially designed — sealed Ball Bearings with permanent lubrication. All Murray fans are rated in accordance with standard test code adopted by ASHVE and NAFM.

MURRAY HORIZONTAL ATTIC FAN

The Murray horizontal mounted, vertical discharge fan is built of the same materials as the vertical mounted horizontal discharge fan and comes in sizes 24", 30", 36", 42" and 48". This fan offers real sales appeal for homes with low bridge attics. They are built to assure compact installation and maximum air movement.



THE MURRAY 20 INCH WINDOW FAN

Its the most versatile of all. Especially useful in apartments or rented homes. Its light weight makes it easily portable and the attractive appearance blends with the interior of homes. The fine mesh guard is removable and constructed to protect tiny fingers.

EASY TO CLEAN AND OIL — two screws remove small mesh guard. PATENTED DIE FORMED—perfectly balanced, rubber mounted aluminum blades for maximum volume air and economical, quiet operation. 2 SPEED —direct connected motor. No belts or bearings. BEAUTIFUL ivory finish and stainless steel.

THE MURRAY 24 INCH WINDOW FAN

Produces ample ventilation for the average small home or apartment. It operates quietly, is sturdily made of fine materials, and is finished in a rich ivory color with bright stainless steel trim. Windows can be opened and closed with the fan installed, eliminating storage problems.

Deep pitched patented Torrington blade for maximum air delivery and whisper quiet operation. Two thumb screws at top removes front guard for convenient and easy cleaning. Equipped with 1/3 hp General Electric or Westinghouse motors which provides ample power. Lifetime bearings — require no lubrication. An exclusive Murray feature.

THE MURRAY COMPANY of TEXAS Inc.

ATLANTA 1, GEORGIA — DALLAS 1, TEXAS

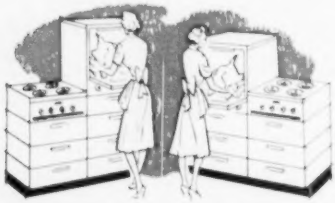
SALES AGENTS

H. C. BIGLIN Co. Inc., ATLANTA 3, GA.

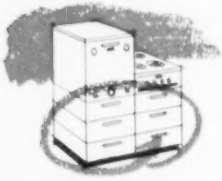
177 HARRIS STREET, N.W.

UNIVERSAL *presents* the first major advance

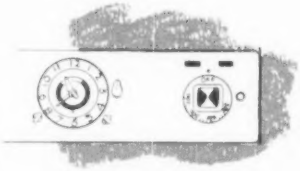
Here it is! The sensational *Select-a-Range* with the exclusive "Convenience-Level" oven!



NOW! RIGHT OR LEFT HAND OVENS! "Convenience-Level" can be set to any desired height, right or left, for tall or short people to eliminate back-breaking stooping, squatting and bending!



NOW! 100% MORE STORAGE SPACE! Increased storage drawer capacity provides more than twice as much utility space as conventional ranges! *All* your utensils are now at your fingertips!



NOW! SAVE TIME WITH AUTOMATIC COOKING! Automatic Clock starts and stops oven without attention. Automatic push-button Pre-Heat Control. Just set it ...then forget it. No watching or guessing!

in Electric Range Design in 25 years!

THE

Select-a-Range

IT'S NEW!

IT'S REVOLUTIONARY!

IT'S EXCLUSIVELY UNIVERSAL!

New markets for you! . . . Greatly increased turnover with reduced inventory! . . . Exclusive, dramatic "Convenience-Level" oven! . . . More sales through kitchen planning flexibility! That's why...

EVERY DEALER SHOULD HAVE THIS AMAZING NEW KIND OF RANGE IN HIS STORE!

1. The Select-a-Range gives you the widest range line in the industry. Now you can sell a range for the smallest cottage or the largest mansion . . . from minimum to maximum cooking requirements. Now you can sell the building market with a range designed and priced for any project . . . new building or modernization. Now you can sell the institutional market with a range big and flexible enough to meet requirements.

Here are new markets, broader markets never before open to you in range selling!

2. One Select-a-Range on your floor is all the inventory you need to do a complete selling job compared with 6 or 8 models of a conventional line. Instead of turning over your range investment four times a year, for example, Select-a-Range turnover is 24 times! Just one Select-a-Range gives you a line of more than 25 models!

Reduced inventory . . . increased turnover . . . equals greater range profit for you!

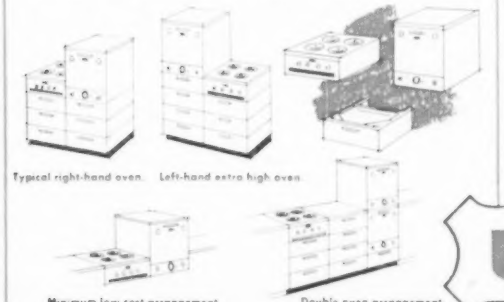
3. Select-a-Range is the *only* range with the much desired no-stoop "Convenience-Level" oven. Surveys show that over 25% of your customers want a *high* level oven. Now they can have it . . . it's exclusively Universal . . . a "Convenience-Level" oven at the height your customer selects . . . exactly as she wants it.

Here is a great sales advantage for you that no other range line can match!

4. Select-a-Range *multiplies* your opportunities to sell *complete* kitchens . . . 25 arrangements to meet your customer's most exacting whims. Your kitchen planning problems are simplified with fresh new designs by the nationally famous Royal Barry Wills . . . Select-a-Range models and other sales helps.

Call your Universal distributor today or write immediately to Landers, Frary & Clark for complete details. Be the *first* in your town with the sensational Select-a-Range!

OVER 25 VARIATIONS FROM 3 BASIC UNITS!



Typical right-hand oven. Left-hand extra high oven.

Minimum low cost arrangement. Double oven arrangement.

Royal Barry Wills

nationally famous small homes designer, has planned six new startling kitchens around the sensational Select-a-Range. Featured in Select-a-Range national advertising, they have also been included in your kitchen planning kit to help you sell!

UNIVERSAL

LANDERS, FRARY & CLARK, NEW BRITAIN, CONN.

News Roundup

Warranty Period Extended by Arvin

A 5-YEAR SERVICE WARRANTY guaranteeing both the Arvin Dual Control No. 2300 iron and the Arvin Automatic No. 2200 iron for five full years from original date of purchase went into effect on February 1, according to special announcement from Gordon T. Ritter, director of sales for the electrical housewares division of Noblitt-Sparks Industries, Inc., of Columbus, Ind.

"Having had such a perfect experience with these irons throughout the postwar period, Arvin feels that it can with confidence offer this unusual policy to dealers and relieve them of any possible service or repair detail. At the same time, Arvin hopes to show the consumer the advantages and conveniences of being protected by a warranty that is backed up by factory servicing facilities," Mr. Ritter said.

The new arrangement calls for a 60-month guarantee of both Arvin irons from date of retail purchase provided the appliance is used on electrical currents specified on the name plate. The consumer may return an iron for repair at no cost except when a handle or a heat indicator knob has been broken or a cord frayed or cut. In such cases small charges will be made to cover parts costs only.

So that the dealer will not lose any time because of the handling work involved in making the new guarantee effective, customers will be asked to pack irons needing attention and return them prepaid to Noblitt-Sparks' service department at Columbus, Ind. Irons will be repaired without charge and returned to customers with transportation charges prepaid. Hence, one-way postage is the only out-of-pocket expense the consumer has to meet, Mr. Ritter pointed out.

Thor to Limit Number of Dealers

ANNOUNCEMENT has been made by Thor Corporation that it will cut its total number of dealers from 20,000 to a "highly selective" 7,000 during 1950.

Simultaneously, the company disclosed it would back the selective dealer organization with advertising and sales promotion outlays totaling $1,750,000—the highest amount in the firm's 44-year history.

John R. Hurley, Thor's president, said he is convinced the new program will materially improve the sales volume of the company, as well as the dealers retained in the program.

"We're through with the mass distribution method of selling," he declared. "It is proving to be definitely unsound and detrimental to the entire major appliance and radio distributing picture."

Mass distribution, he said, was created by conditions artificial to a normal specialty merchandising structure, springing from the unusual demand created by war shortages.

"At war's end, manufacturers found themselves deluged with orders from not only their prewar dealers but from thousands of new dealers. The demand was so great and the opportunity to sell without effort so insistent that manufacturers and their distributors could not resist the pressure. The result was thousands of new dealers but few true dealers."

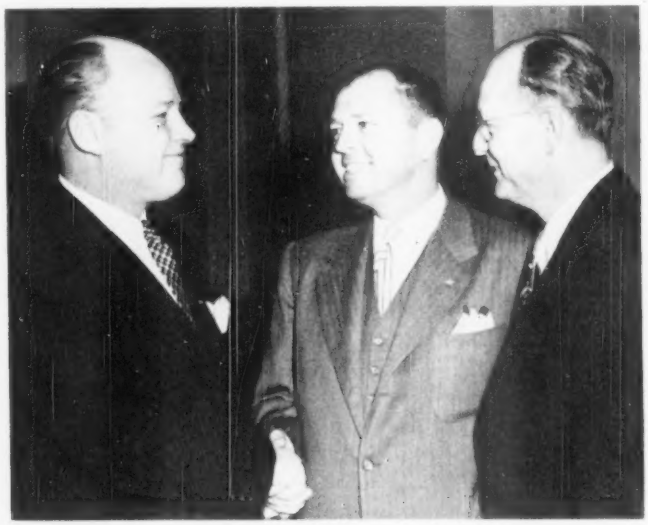
Mr. Hurley said conditions have deteriorated to a point where approximately 80 per cent of the nation's total major appliance volume comes from only 25 per cent of the dealers.

The existence of a tremendous number of dealers "in name only" has, he said, often led to flagrant price chiseling, neglect of proper sales efforts, disregard for service, and resulting breakdowns of customer relations.

Mr. Hurley said that, in view of these conditions, and the fact that "we know from past experience that an organization of selected, well-trained, hard-selling dealers has proven to be the most successful method of getting and sustaining peak sales volume," Thor has notified its distributors to immediately streamline their Thor dealer lists.

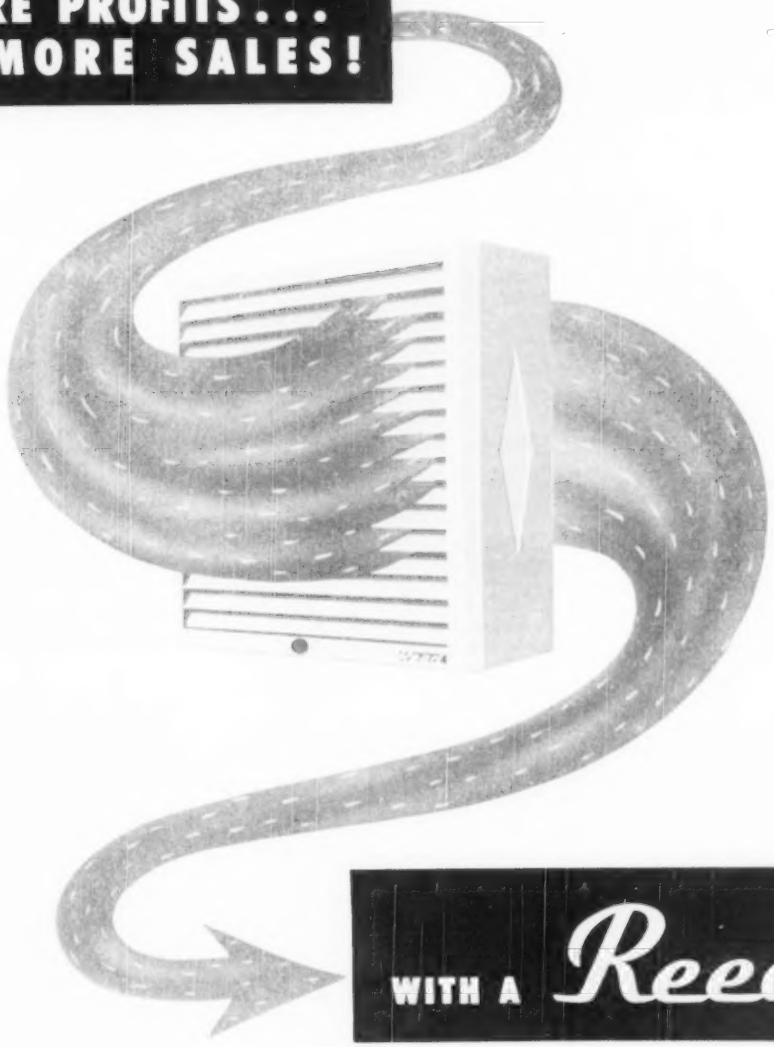
He contended that the good dealers, themselves, are ready for such a plan, pointing out that the National Appliance and Radio Dealers Association has for many months been pleading with manufacturers and distributors to limit the number of dealers in a given market potential area.

Mr. Hurley said that, with selected dealers, Thor will be in a better position to intelligently plan and carry out its policies, sales promotions will be of higher quality, and advertising will be increased and better scheduled



NEW OFFICERS NAMED—Among those named to head the Atlanta Electrical Association this year are, left to right, Jack Forrester, honorary secretary; Jack Cawthon, president; and Bob Shelley, chairman of the program committee. New officers not pictured include Vice-President Leroy Kise, honorary life member A. E. Foster, and directors Howard Wilson, John H. Harte, Erl W. Gunn, Henry L. Reid, A. F. Eichenlaub, Carl D. Taylor, and Harry Giles.

MORE PROFITS . . . MORE SALES!



WITH A *Reed*

For the fan that will give your customers the trouble-free service that every dealer hopes for, a Reed Unit-Fan is the best 1950 buy! Each model — window, attic, portable and industrial fan — combines those features most often looked for in fans . . . Quietness, Powerful Air Delivers, Reversible Operation and a long life of Trouble-Free Service . . . and, don't overlook the Reed Vertical Air Discharge Unit which requires only 13¾ inches attic head clearance. Then too, PEMA Certified Ratings of Air Delivers are a guarantee to the dealer as well as to the customer. The dealer is also backed by the company's extensive consumer advertising campaign. Dealerships are now open . . . write for catalog and prices today!

R-U-F TRADE MARK

REED UNIT-FANS, INC.

Manufacturers of Ventilating Equipment

1001 St. Charles Ave., New Orleans 8, La., U.S.A.

Certified Ratings PEMA

because the corporation will know the dealers "will merchandise the ads and promotions to the utmost."

Additional benefits to the dealers, he said, will be that they will receive more concentrated attention and sales assistance from Thor and the distributors and that the number of competing Thor dealers in any given trading area will be restricted, so that there will not be more than the sales potential will support.

Bright Outlook Given Appliance Industry

THE ELECTRICAL APPLIANCE industry will sell a total of 41,390,000 units in 1950, H. L. Andrews, vice-president in charge of General Electric's Appliance & Merchandise Department said at a recent distributor meeting. However, he warned his listeners that the favorable prospects were jeopardized by the critical situation in coal production.

Repeating predictions of an increase in the electrical appliance business in 1950, C. R. Pritchard told the distributors that their ability to increase sales volume in the coming years depended on their ability to "promote and sell aggressively labor saving appliances as necessities and not as luxuries."

Mr. Pritchard said that in 1949 alone the appliance industry sold at retail $466,000,000 of dishwashers, garbage disposers, automatic washers, dryers, and freezers. This was only 13 million dollars less than the sale in 1939 of "accepted" items—refrigerators, ranges, water heaters, washers, and ironers. The sale of these accepted items in 1949 totaled $1,816,000,000.

To meet present problems he urged distributors to watch their expenses if they are to make a satisfactory net profit. "At no time has the old adage that appliance business profits come from sweeping out the corners been more true," he said.

Youngstown Divides Sales Organization

DIVISION OF THE Youngstown Kitchens field sales organization into five territorial zones has been announced by Charles A. Morrow, vice-president in charge of merchandising for Mullins Manufacturing Corporation.

Each of the five zones is headed by a manager with from two to five sales regions and regional sales managers under his jurisdiction.

Mr. Morrow said establishment of the zone system is "another step in the development of the vast market for modern steel kitchen equipment and will provide closer co-ordination between distributor and factory, and give regional managers more time to help distributors deal with local sales problems."

Appointed as zone managers are five former Youngstown regional sales managers. They are Harry F. Howell, Eastern zone with headquarters in Philadelphia; Jack Purvis, Midwestern zone, Detroit; Morris D. Durham, Southern zone, Fort Worth, Texas; H. E. Counselman, Northwestern zone, Lake Elmo, Minn.; and D. Eugene Parks, Southwestern zone, Los Angeles. Mr. Parks' appointment is effective April 1, while the other men already have taken over their new duties.

Appointment of regional sales managers to replace those made zone managers will be announced when all posts are filled, Mr. Morrow said.

L. Luria Expands Operations in Florida

ONE OF THE MOST modern buildings in the Southeast will house the offices, showrooms, and warehouse of L. Luria & Son's southern branch in Miami, Fla. Located at 980 S.W. First St., and occupying 25,000 square feet of floor space, the new building will incorporate the latest techniques in architectural design and lighting.

The huge, completely fire-proof structure was planned to house the offices, warehouse, and showrooms on one floor in order to attain maximum efficiency of operation. An elaborate conveyor system, air conditioning unit, large parking area, and many other modern innovations have been introduced to add to the comfort of Luria customers and employees.

According to Joseph J. Luria, president of the organization, the new building will enable the firm to render greater service to its many dealers in Florida and the surrounding territories and to provide southern merchants with nationally advertised electrical appliances, housewares, giftwares, silverware, clocks, jewelry, toiletware, and Luriafine promotions. Famous names like Toastmaster, General Electric, Sunbeam, Proctor, Telechron, Westclox, 1847 Rogers Bros., Community Plate, Alvin, Ronson, Evans, Presto, Thermos, Eastman Kodak, Rubbermaid, Cosco, and O-Cedar are just a few of the many

UNIVERSAL APPLIANCE OFFICIALS—Universal officials pictured here were in Atlanta recently for a showing of the 1950 line of the company's appliances. Shown seated, left to right, are Albert R. Arnau, vice-president of Electric Sales and Service Company, of Atlanta, and C. E. Buchanan, southeastern manager of Landers, Frary & Clark. Standing, left to right, are A. S. Bross, assistant sales manager; R. A. Beyers, sales manager, range division; and F. T. Barmore, assistant sales manager of ranges, all of Landers, Frary & Clark.

important lines that the firm distributes.

The formal opening of the new Miami building was scheduled for March 11 at which time an open house party and merchandise exhibit were planned for dealers and factory representatives.

Organized in 1898, the firm is now celebrating its 52nd year of continuous service to the trade as a national distributor. Its main office is at 160 Fifth Ave., New York City, with another branch at 214 Pryor St., S.W., Atlanta, Ga.

TOASTER SALES TECHNIQUE—When General Mills Home Appliances held a national sales meeting recently in Milwaukee, both District Sales Manager Curtis Carmichael, left, of Dallas, and Pete Dewees, right, sales agent for the Eastern District in Atlanta, were on hand. Here they exchange valuable sales technique on the use of the company's new Betty Crocker toaster.

New Distributor Appointments

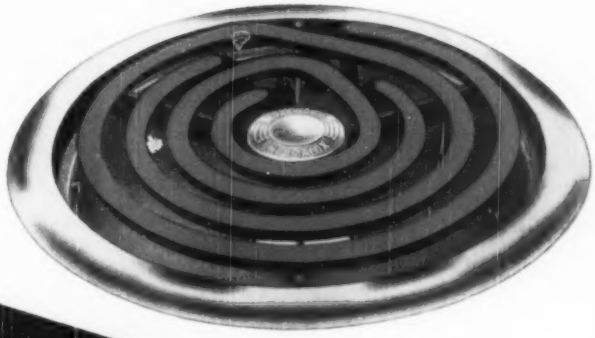
INCLUDED IN the list of new distributors appointed recently by manufacturers is that of Federal Distributing Co., 851 N. W. Second St., Oklahoma City, Okla., as distributor of Whirlpool home laundry equipment.

Robert M. Mitchell, Whirlpool division sales manager of the Nineteen Hundred Corporation, St. Joseph, Mich., made the announcement.

•

APPOINTMENT OF Southern Bearings and Parts Co., 315 No. College, Charlotte, N. C., as exclusive Du Mont television receiver distributor in the Piedmont section of North and South Carolina has been announced by Ernest A. Marx, general manager of the receiver sales division, Allen B.

Fix them All, On a "One-Stop" Call!



SUPREME RANGE UNITS

FIT ALL ELECTRIC RANGE OPENINGS

Just put two stock sizes of CHROMALOX Supreme Units and a supply of Adaptor Rings in your service truck and "zip" away to the call. You can be sure CHROMALOX Units always fit the range you are servicing, regardless of its make, size or age!

And best of all, replacements are made quickly, easily (no adjustments are needed) and at a good profit! Your customers, too, will be more than happy because they have the finest Range Units money can buy . . . units with the famous "2 Units in 1" feature that give years of trouble-free service and that are easy to clean and keep clean!

Fast!
Economical!
Easy to Clean!
Longer Life!

Write today for the full story about how you can increase your business and profits by servicing electric ranges the Chromalox way. Ask for Bulletin RU-149.

on new Ranges and for Modernization

CHROMALOX
means Electric Cooking at its Best!

EDWIN L. WIEGAND COMPANY, 7600 THOMAS BLVD., PITTSBURGH 8, PA.

C. B. Rogers, 1600 Peachtree St., N. E., Atlanta, Ga.; L. B. Ward Co., 2211 Commerce St., Dallas 1, Texas; 912 M & M Bldg., Houston 2, Texas; 1317 Louisiana St., New Orleans 15, La.; 1519 So. Boston St., Tulsa 5, Okla.; W. R. Phillips, P. O. Box 2161, Raleigh, N. C.; W. R. Phillips, Jr., 3105 Lamb Ave., Richmond 22, Va.

Du Mont Laboratories, Inc.

Clarence F. Beeson, president of the firm, announced at the same time that his organization would begin franchising dealers immediately. Originally organized in 1921, the company is said to be one of the largest and best known appliance distributors in the country.

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New distributors in North Texas for Gibson refrigerators, ranges, and home freezers are Rogers, Leche and Wickman, Inc., of Dallas, successors to the firm of Rogers, Leche and Merchant, Inc.

Owners of the new corporation are Dan D. Rogers, Miles F. Leche, Herbert M. Wickman, and Henry H. Pitman. Mr. Wickman, who will be executive vice-president, has had 30 years of experience in specialty selling, principally in the appliance field.

Don Shonn, division manager for Gibson, reports the new distributor will be responsible in North Texas for directing promotion of the 1950 Gibson line, most extensive in the history of the Gibson company.

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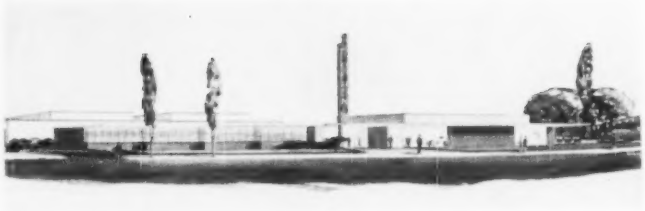
The Duval Corporation, Richmond, has been appointed wholesale distributor for Eastern Virginia and Eastern North Carolina for the complete line of Admiral appliances—television, radios, refrigerators, and ranges.



NEW ARTOPHONE OFFICE AND WAREHOUSE — Construction will be started soon on a new office and warehouse building for The Artophone Corp., St. Louis, wholesale distributors of television, radios, refrigerators, freezers, room air conditioners, electric ranges, electrical housewares, and other items in the appliance field. The building, to be located at Rosedale and Clemens Avenues, is a one-story brick and haydite block structure of contemporary design. The building will contain a large display room for showing of products the company distributes, and adjacent to this room, arranged so that it may become a part of it, is an auditorium for employees and dealer meetings.

The new firm was expected to be in its new location at 1221 Admiral St., the early part of March. Harry G. Duval is president, Eugene S. Fields, in charge of the Norfolk branch, Herbert O. Green, in charge of the Southside and Carolina districts, J. P. Harahan, operations manager, and Ryland Johnson, head of accounting and credits.

•

Announcement has been made by the Ventilating Division of the Holcomb & Hoke Manufacturing Co., Inc., Indianapolis, Ind., that their new Tampa, Fla., distributor is Raybro Electric Supplies, Inc., with branches in Jacksonville and Miami. Raybro Electric will handle Silent Breeze fans.

•

The appointment of the D & H Distributing Co., Baltimore, Md., as the new wholesale distributor for Gibson in that state has been announced by J. L. Johnson, general sales manager of the Gibson Refrigerator Co., Greenville, Mich.

Directing the operation of the Baltimore organization are David Schwab, president; Edward Huppert, sales manager; and Julius Ramess, general manager. D & H will be assisted in building a strong dealer organization by Robert Sanford, Gibson divisional sales manager.

•

The appointment of Major Appliances, Inc., Miami 36, Fla., as distributor for Motorola radios and television in the State of Florida has been announced by W. D. Rowlands, president of the appliance firm.

Major Appliances is relinquishing their RCA franchise as State record distributor and for the southeastern territory on instruments and television. They also will no longer act as distributor for Sylvania television in the area which they served.

General offices of the firm are located at 925-933 W. Flagler St., Miami, 536 E. 4th St., and in Tampa at 419 ms, with branches in Jacksonville at Ellamac St.

•

Three southeastern market areas have new distributors for Arvin appliances and radios effective as of January 1, officials at Noblitt-Sparks Industries, Inc., Columbus, Ind., have announced.

NEW CHATTANOOGA DISTRIBUTOR — Distribution of the new line of Lectro-Host refrigerators recently added by the A. J. Lindemann & Hoverson Co., Milwaukee, Wisc., long-time manufacturers of electric ranges and water heaters, is proceeding at a brisk pace. Charles Bower of the Tri-State Supply Co., Chattanooga, Tenn., is shown at right as he signs a contract for handling the new line with E. A. Lindemann, president of the L & H Company.

"The THRIFTY buy in '50"

CHILL CHEST

Now LARGER CAPACITY IN LESS SPACE

New LOWER PRICE PER CUBIC FOOT

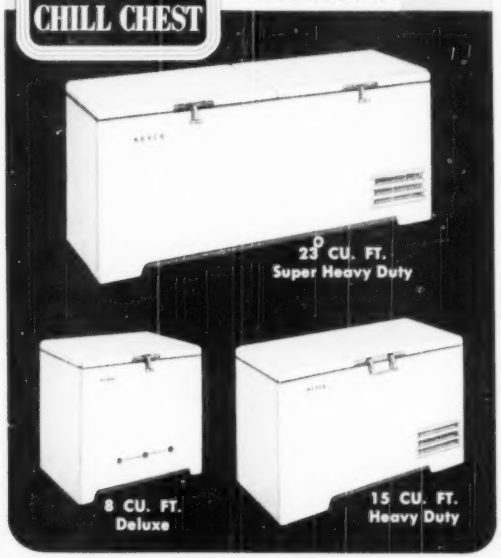
The CHILL CHEST Line offers you many advantages over other home Food-Freezers! The 8, 15 and 23 cubic foot CHILL CHESTS . . . advanced in design and engineering features . . . give big food storage capacity. They are no larger outside than most 6, 12 and 20 cubic foot freezer cabinets. Priced to compete with these smaller sizes, CHILL CHEST gives you a distinct Sales advantage — Lower Price per cubic foot!

Get all the details Now about the 1950 CHILL CHEST PROGRAM.

Wire, Phone or Write to:

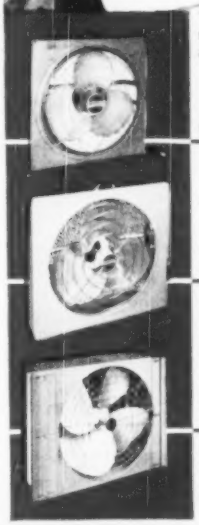
Revco CHILL CHEST

REVCO, INC.
DEERFIELD
MICHIGAN



Air Equipment Company
ANNOUNCES
A MORE COMPLETE LINE FOR 1950

This year there are three new units in the KOOLMASTER* line. Specifications are as follows:



KOOLMASTER

MODEL 18 P-3 (Portable—3 Speed)
(18" Blade—Direct Driven) C.F.M. 1900
R.P.M. 1600/600/500 H.P. 1/15 Wt. 22 lbs.

KOOLMASTER

MODEL 20 P-1 (Portable—Single Speed)
(20" Blade—Direct Driven) C.F.M. 3300
R.P.M. 1600 H.P. 1/15 Wt. 30 lbs.

MODEL 20 W-3 (Window—3 Speed)
Adjustable to Windows 26" to 36"
R.P.M. 1600/600/500 C.F.M. 3300
H.P. 1/15 Wt. 30 lbs.

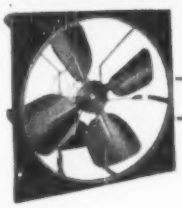
KOOLMASTER

MODEL 24 W-1 (Window—Single Speed)
Adjustable to Windows 28¼" to 37"
(24" Blade—Belt Driven) C.F.M. 4700
R.P.M. 640 H.P. ¼ Wt. 65 lbs.

MODEL 24 W-2 (Window—2 Speed)
Adjustable to Windows 28¼" to 37"
R.P.M. 640/400 C.F.M. 4700
H.P. 1/6 Wt. 65 lbs.

Remember . . . all NITECOOL* and KOOLMASTER* fans are made with nationally known parts. GE Motors, Torrington Blades, Standard Bronze Bearings and V-Belt Drives.

No bolts or nuts, assembly is entirely welded. Rated and tested in accordance with ASHVE and NAEM standard test code.



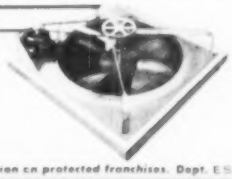
NITECOOL ATTIC AND COMMERCIAL BELT-DRIVEN FANS

These fans are built for service, with a minimum of operating and maintenance cost. Sizes 30" to 48". Capacity 5,000 to 20,000 CFM. Designed for attic, farm, commercial and industrial applications.

*Registered Trade-Mark

NITECOOL VERTICAL FANS

Designed for homes or commercial buildings of low-pitched roof construction. Easy and economical to install. Sizes 30", 36", 42". A package unit . . . ready for installation.



Write today for complete information on protected franchises. Dept. ES

AIR EQUIPMENT CO.

BERNS AIR KING FANS

NEW SALES POWER FOR YOU!

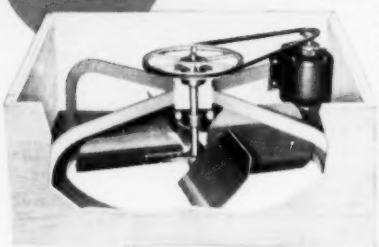
12,570,195 NATIONAL ADS

A GREAT BIG PLUS FOR YOU!

We're teaming Air King's outstanding, quality and style with a powerful national advertising campaign—to do profitable things for you. 12,570,195 copies of America's best selling magazines, a widespread barrage of page-dominating trade ads, and timely newspaper ads by the country's leading stores will do a super-selling job for you throughout the coming season. Take advantage of these multi-million sales messages! Stock, display and promote Berns Air King Fans! Make this the "hottest" summer you've ever known!

New!

PACKAGED CEILING FAN
For Horizontal Operation



The perfect fan where roof clearance is at a minimum. Comes in a double-duty crate designed for use in installation as a "built-in" frame. Completely equipped, no extras to buy or build. Big, powerful blades and quiet-running, heavy duty motor change the air in the average house in one minute. Sealed-for-life shaft bearings set in solid rubber. Typical Berns Air King quality and construction features throughout. Feature this especially practical, cooling system to every home owner. Available in 24", 30", 36", 42" models.

DELUXE FLOOR CIRCULATOR

The outstanding style leader in fast-selling floor circulators. Completely new in design . . . typical Air King quality for unequalled efficiency. 12" model in beautiful Sunset Tan finish. **$39.95 incl. tax.**

ECONOMY FLOOR CIRCULATOR. Sells on sight because never before a quality floor circulator at this amazingly low price. Makes the most budget-conscious prospect a profitable customer. A "must" for every dealer! 12" model only **$24.95 incl. tax.**

More New 1950 Air King Models:
- HORIZONTAL CEILING FAN
- 8" BUILT-IN KITCHEN FAN
- ELECTRIC HEATER FAN
- BUILT-IN CEILING KITCHEN FAN

The complete Air King line is now your better-than-ever source for practically all your fan needs!

SOLD ONLY THROUGH LEADING ELECTRICAL WHOLESALERS—Ask your wholesaler or write direct.

BERNS MANUFACTURING CORPORATION
2278 ELSTON AVENUE • CHICAGO 14, ILLINOIS
For Export, write to AUTOMOTIVE DISTRIBUTIVE OF THE AMERICAS
20 West Washington St., Chicago 2, Ill., U. S. A.

J. L. Perry Company, 813-21 Ninth Avenue, N. W., Nashville, Tenn., takes over the Arvin distributorship in Nashville and the eastern Tennessee area while Moore-Handley Company, 27 South Twentieth St., Birmingham, Ala., has signed a franchise for that city and adjacent sections.

In Atlanta, the Arvin line will now be distributed by Economy Auto Stores, 1130 Bankhead Avenue, N. W. The firm has long been well known in the trade circles of that city.

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The appointment of the Irion Company, 2159 Mills St., El Paso, Texas, as executive distributor of Admiral refrigerators, ranges, television, and radio-phonos, has been announced by W. C. Johnson, Admiral vice-president in charge of sales.

The building location of the new distributor, equipped with air-conditioned offices and a showroom with ample warehouse space, is served by both railroad trackage and truck loading facilities.

The officers of the firm are C. H. Irion, president and general manager, and D. A. Williams, secretary and treasurer.

Both Messrs. Irion and Williams have had long experience in the distribution of household appliances and radios. Mr. Irion has been associated with this line of business since 1927 in the Dallas-Memphis markets. Mr. Williams entered the appliance field in 1941 at Memphis, and had his own distributorship until he assumed his present position with the newly organized firm.

•

Continuing its expansion in the Southwest and Midwest, the Anderson Stove Company has appointed Appliance Distributors, Inc., 307 East Grant St., Oklahoma City, as wholesale distributors for Anderson "Retained Heat" gas ranges, according to an announcement by B. J. Oppenheim, vice-president in charge of sales for Anderson.

The range manufacturing firm is a subsidiary of Breeze Corporation, Inc., of Newark, N. J.

Custom-Built Plant To Start Production

Described as a "custom-built" plant, the recently completed addition to the John Oster Manufacturing Company factory in Milwaukee will be ready for initial production runs

See the New "CLIPPER"

FOR LOW-COST *PACKAGED* VENTILATION

REX-AIRATE

5870 C.F.M.
8350 C.F.M.

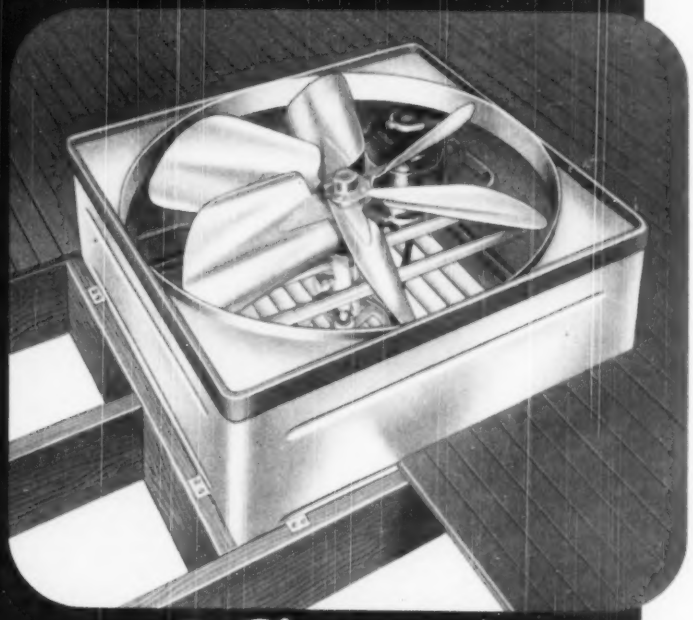
SUPER PERFORMANCE

QUICKEST INSTALLATION

DOMESTIC COMMERCIAL

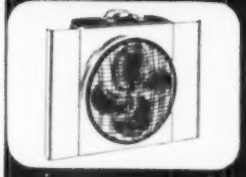
NEW STYLE

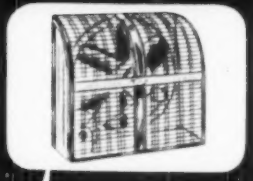
NEW DESIGN

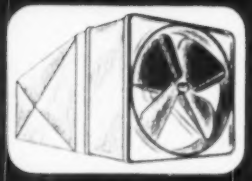


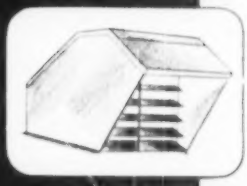
28 NEW STYLES AND SIZES

- Biggest, newest, most complete ventilating fan line in the country.
- *Domestic — Commercial — Industrial*
- Catalog ready soon. Reserve your copy now. See for yourself why customers will prefer "Rex Airate" in 1950.









Air CONTROLS INC

Div. of THE CLEVELAND HEATER CO.

2310 Superior Avenue — Cleveland 14, Ohio

AIR CONTROLS, INC.
2310 Superior Ave., Cleveland 14, Ohio

☐ We're interested, tell us more.
☐ Send literature, P. D. Q.

Name _____

Address _____

City _____ State _____

early in January, according to John Oster, founder and president of the appliance manufacturing firm.

The 92,000-square-foot plant in Milwaukee brings the total of production space in the three plants (located in Milwaukee and Racine) to more than a quarter-million square feet of area. It is estimated that total costs of building and equipping the new single story structure approach $1,000,000.00.

The present line of Oster electric housewares includes the Osterett, the original two-beater portable electric food mixer; the Osterizer, a new type mixer that liquefies, blends, and mixes; the Airjet, a portable hair dryer, and the Stim-u-lax Junior Massage Instrument with the patented Suspended Motor construction.

The commercial and professional line include fountain and bar mixers, barber and beauty shop appliances, massage instruments for the physician, animal clippers for kennel, dairy, and veterinary use, surgical clippers for the medical profession, and fractional horsepower motors.

The "custom-built" plant in Milwaukee incorporates production ideas of Eric Bylund, vice-president of works. Production line equipment had been selected in advance to design of the plant, with the over-all operation conforming to the requirements necessary for quality controlled mass producing of the precision-made Oster appliances.

ATLANTA WELCOMES APEX OFFICIALS—With C. G. Krantz, left, president of Apex Electrical Manufacturing Co., Cleveland, assisting in the meeting, Apex unveiled to Georgia dealers in Atlanta recently a line of 1950 appliances featuring the "Dish-a-Matic" dishwasher and the Apex automatic clothes dryer. J. C. Thomas, Apex Southern division sales manager, center, and Herndon Thomas, president of the Georgia Appliance Company, Atlanta, right, also took part in the showing.

Electrical Week Will Feature Electric Show

FINAL PLANS have been completed and the drawing for exhibit space held recently for the "Chattanooga Electric Show—1950," scheduled for the week of April 24. This annual Exposition is the main feature of "Electrical Week," sponsored by the Electric League and Electric Power Board each year in Chattanooga, Tenn.

The theme of the Exposition is "Live Electrically—in the Electrical Center of the South." Other top features of "Electrical Week" are the annual banquet of the Electric League, special electrical editions of the local newspapers, prize contests for the public, dealer window display contest, and a giant home freezer and frozen food show handled by prominent home economists.

All available exhibit space was contracted for by distributors and manufacturers and enthusiasm indicates that the 1950 promotion will be an outstanding one, reports C. B. Osborne, chairman, General Show Committee.

The home freezer and frozen foods promotion is to be held in the Community Theatre in the Memorial Auditorium, April 24-28. Plans have been developed for the promotion by a committee of distributors, who point out that the Theatre has a spacious stage and will seat 1,400 persons. Fourteen cooperating distributor members of the Electric League will participate in the promotion.

There will be two frozen food home freezer "school" sessions daily, at 2:00 in the afternoon and 7:45 at night. Miss Elizabeth Davis, home economist for the Power Board will coordinate the demonstrations.

The "new" and the "old" are closely compared by heads of the John Oster Manufacturing Co., Racine, Wisc., on the occasion of their 25th anniversary in business. John Oster, right, founder and president of the company, examines the first product to come off the assembly lines in 1924—a hair clipper. John, Jr., center, executive vice-president of the firm, compares the "old" with the latest model, an electric motor driven clipper, held by his brother Robert, left, treasurer. Today the firm produces a rounded line of electric housewares, as well as barber and beauty shop appliances, commercial and professional equipment, and fractional horsepower motors.

Extra! Extra! Reduced Prices for '50 on

EMERSON-ELECTRIC WINDOW FANS

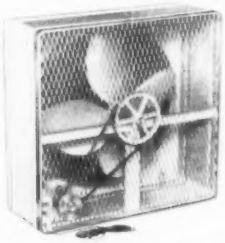
. . . and in addition,

now backed by this famous sale-boosting 5-year guarantee!

Here's real *value* for your customers . . . that means real *volume* for *you!* In stepping up production, Emerson-Electric has pared window fan prices to the bone . . . *important* reductions, ranging up to $20 per unit under last year's lists! And on an up-and-coming line of top-quality, newly-improved models . . . now backed by an extra sales-clincher—the famous Emerson-Electric 5-Year Guarantee! Savings on other fans, too. Get the *full* story now on Emerson-Electric's great 60th Anniversary Fan SELLebration, including national advertising and free merchandising helps for America's most complete and most popular fan line! Contact your nearest Authorized Emerson-Electric Wholesaler, or write for Catalog No. 606.

Improved 2-speed, 16-inch window fan

with carrying handle and adjustable panels. Can be used as daytime air circulator. Has removable protective guard on discharge side. Lists at $44.50. Powerful 20-inch model, $64.50 list.

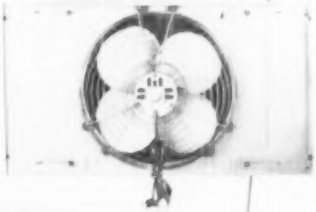


Belt-Drive Window Fan

has two speeds, perfectly balanced blades, quiet rubber-mounted motor; finished in luxurious ivory enamel. Available in 24- and 30-inch blade sizes, now listing at $84.50 and $99.50.

New! A sure sales winner! EMERSON JUNIOR WINDOW FAN

It's the hottest budget fan value Emerson-Electric ever offered! Equipped with powerful, dependable single-speed Emerson-Electric motor, and quiet-type 16-inch overlapping blades. One year Factory-to-User Guarantee. Complete with grille and adjustable panels, beautifully finished in ivory enamel . . . and priced at just $34.95.



EMERSON ELECTRIC
MOTORS • FANS — APPLIANCES

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

Names and Faces

Roy S. Gallagher, formerly general manager in the appliance department of one of the south's largest department stores, has been named southern regional manager under American Kitchens' new expanding sales plan. **F. F. Duggan,** general sales manager of the **American Central Division-Avco Manufacturing Corporation,** announced recently.

Mr. Gallagher, who will make his headquarters in Atlanta, Ga., is a graduate of the American Kitchens Planning, Installation, and Sales Training Institute. He has already assumed his new duties.

•

Charles T. Lawson, vice-president of **Nash-Kelvinator Corporation** in charge of Kelvinator sales, has announced the appointment of **Charles J. Coward** as merchandising manager.

C. J. Coward

Mr. Coward, who has been director of advertising and sales promotion for Kelvinator since 1946, will be responsible for all merchandising activities on Kelvinator household products and the over-all advertising and sales promotion program for the Kelvinator Division.

J. C. Bonning, assistant director of advertising and sales promotion, has been named advertising and sales promotion manager.

J. C. Bonning

F. J. Worden becomes assistant advertising and sales promotion manager.

Mr. Coward will be assisted on merchandising by **R. B. Trick,** home freezer sales manager, and **H. A. Willis,** range sales manager.

In connection with these changes, **D. A. Packard,** household sales manager, assumes additional over-all household management responsibilities.

•

The appointment of **L. J. Sorensen** as vice-president and general manager of the **Deepfreeze Appliance Division, Motor Products Corp.,** succeeding **G. H. Smith,** has been announced along with several other important appointments.

Ben G. Sanderson has been named general sales manager to succeed **G. F. Weisenbach,** and Mr. Sanderson announced the following additional appointments: **Peter R. Lowcher,** new refrigerator sales manager, succeeding Mr. Sanderson; **F. L. Sacha,** sales manager for electric ranges and water heaters, and **Lester O. Braun,** home freezer sales manager, succeeding **R. V. Newbell.**

•

W. B. Every has been appointed **General Electric** district representative for the sale of replacement tubes and receiver parts with headquarters in Atlanta, Ga., according to an announcement by **A. A. Brandt,** general sales manager of the electronics department. He will cover the Columbia, Nashville, Chattanooga, Knoxville, Memphis, Charlotte, and Raleigh markets.

W. B. Every

Mr. Every joined the General Electric Company in 1934 and was assigned to the apparatus department at Schenectady. Following service in the U. S. Army, he was named district representative for the chemical department in the Detroit office and held that position until his present appointment.

•

The Holcomb & Hoke Mfg. Co., Inc., of Indianapolis, recently an-

L. J. Sorensen

Ben G. Sanderson

Peter R. Lowcher

F. L. Sacha

Lester O. Braun

nounced the appointment of new executives in its Silent Breeze Ventilating Fan Division. **Alex S. Carroll** is the new manager of the division, and **Douglas G. Muir** is the new sales manager.

Besides new personnel in the fan division, the Holco Hoke Company states new additions to their Silent Breeze fan line. The line now includes the Silent Breeze Gold Seal, for either vertical or horizontal attic installation; Standard, for vertical attic installation; and a new, highly efficient, popular-size window fan. New prices have been announced for the complete line.

•

Realignment of the **Coolerator** sales organization to promote more specialty sales contact and to increase field promotion activities has been announced by **W. C. Conley, Jr.**, Coolerator sales manager.

Fred C. Margolt is new Coolerator district manager for the Eastern Seaboard territory. Replacing **George D. Morton**, who resigned to become a Coolerator distributor in Knoxville, Tenn., Mr. Margolt, a veteran appliance representative, was formerly general manager for a Washington, D. C., appliance distributorship and previously a national product sales manager for Hotpoint, Inc. He has more than 20 years' experience in the appliance field.

William J. Helt, former president of Appliance Distributors, Inc., Coolerator wholesaler in Indianapolis, Ind., has been appointed national range sales manager.

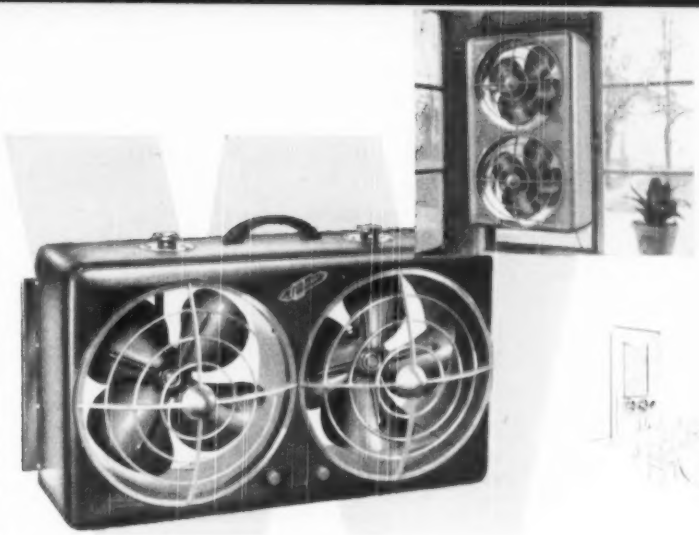
William A. Costello, former Coolerator sales promotion manager, has gone into the field as the Coolerator district representative for the East Central territory. He will supervise Coolerator range, refrigerator, and freezer sales in Kentucky, West Virginia, Indiana, and southern Ohio. He will be headquartered in Cincinnati.

•

The appointment of **R. C. Piper, Jr.**, as sales manager of **La Salle Lighting Products, Inc.**, of Buffalo, has been announced by **Joseph Markel**, president. Mr. Piper will have full charge of the marketing and sales promotion of La Salle Wallamps and Heetamps.

•

The **Silex Company** has announced the appointment of **Monroe G. Smith** of Stamford, Conn., as general manager and simultaneously made public



First and Only **reversible window fan for both sash and steel casement windows**

Twin fans—individually controlled—easily reversible—draw in cooler outside air or expel hot, stuffy inside air. Weighs only 20 pounds—quickly installed without tools. 6-speed control makes this the most flexible window-type cooler ever devised. Amazingly low cost—*5-Year Guarantee*—a cinch for sales.

WELCH AIRFLIGHT CIRCULATORS

original de luxe AIRFLIGHT circulator
Plus **new special model** *priced for mass selling*

Patented* louver rings provide balanced circulation of cool air from lower levels to every corner of the room. No drafts, blasts or annoying whir. Molded in beautiful two-tone plastics. New price leader†—new features—*5-Year Guarantee*—*insure* top sales and profits.

W. W. WELCH CO., CINCINNATI 2, OHIO

†Patent Pending
*Protected by U. S. and Foreign Patents

the appointment of **Frank E. Wolcott** as general sales manager.

These appointments were made following the death of **Louis S. Chick**, president of The Silex Company.

Before coming to Silex, Mr. Smith was treasurer of Plastics Manufacturers Inc., Stamford, Conn., and earlier was associated with Standard Brands and Firestone Tire & Rubber Company. Mr. Wolcott, son of the founder of The Silex Company and formerly president and chairman of the board of directors of the firm is rejoining the company as general sales manager.

•

T. L. Craig has been appointed Southeast regional sales manager by the **Home Appliance Division** of **The Murray Corporation** of America, it has been announced by **C. H. Menge**, vice-president in charge of sales. Mr. Craig's headquarters will be in Birmingham, Alabama.

Formerly branch manager of Electrolux in Birmingham, Mr. Craig also held positions with the Durable Goods Division of The War Production Board, Washington, D. C., as division sales manager of Bendix Home Appliances, Inc., and as district sales manager of Kelvinator Corporation.

In his new position, Mr. Craig will handle sales in the Southeast of Murray's new line of gas ranges, electric ranges, matched steel kitchens, and steel bathroom fixtures.

•

Frank G. Hoover, president of **The Hoover Company**, has announced that **John Frank Hattersley**, the company's vice-president in charge of production since 1945, has been promoted to executive vice-president. The promotion takes effect immediately, he said.

Mr. Hattersley, with the company 29 years, will share with Mr. Hoover direct supervision of all of the company's operations, subject to the board of directors, of which **H. W. Hoover** continues as chairman. These include the manufacture and sale of electric cleaners, as well as electric irons and fractional horsepower motors.

•

Reassignment of sales, merchandising, and promotion personnel of the **Arvin division of Noblitt-Sparks Industries, Inc.**, is announced by **Glenn W. Thompson**, president.

Paul W. Tanner, who has been appliance sales manager, and **Glenn Mills**, formerly of the advertising department, will now devote their efforts to the Arvin radio and television division where they will work with **Harlan B. Foulke**, vice-president, and **Raymond P. Spellman**, sales manager. Mr. Tanner's new duties will identify him as merchandising manager for radio and TV activities while Mr. Mills will act as sales promotion manager of that division.

Leo Burns and **Walden Johansen** have been appointed assistant sales managers of the Arvin electric housewares division where they will be associated with **Gordon T. Ritter**, director of sales. Mr. Burns was until a short time ago a buyer of appliances for Sears, Roebuck & Co., Chicago and Mr. Johansen was formerly with Chatfield Paper Corp., Cincinnati.

Jelan Anderson, former advertising manager of Manning-Bowman Co., Meriden, Conn., and for many years vice-president and art director of the Powers House advertising agency, Cleveland, has joined the Arvin advertising department. He will be associated in that department with **James M. Jewell**, advertising manager.

Silent Salesmen

Electromode — Portable Heater Display

AN ATTENTION-GETTING counter or window display card, tailored to fit the Model PH-13 Electromode Portable Heater, was recently announced by the Electromode Corporation, 45 Crouch St., Rochester 3, N. Y.

This display card is silk screened in four distinctive colors, measures 21½ inches high by 9 inches wide, and stands by itself. It is available to dealers on the basis of purchases of the Model PH-13 heaters.

Mitchell — Floor Display

A COORDINATED sales promotion campaign through its major appliance distributors has been started by Mitchell Manufacturing Company, 2525 No. Clybourn Ave., Chicago 14, Ill., to promote the sale of its ½ and ¾ h.p. room air conditioning units.

Leading off with a two-color salesmen kit containing samples of all sales promotion material prepared by the company, the point-of-sale effort will be spurred by a retail floor display.

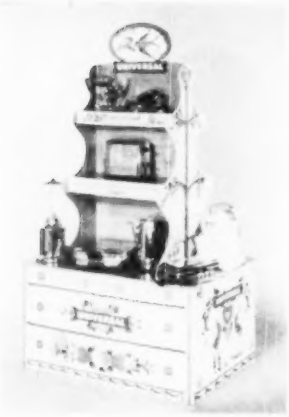
This piece, constructed of masonite and wood, holds either a half or three-quarter h.p. unit just as it will hang in the customer's home.

Universal — Cupboard Display

THE EXCLUSIVE Peter Hunt Hutch cupboard display has been specially created by the famous artist Peter Hunt for Universal appliances, manufactured by Landers, Frary & Clark, New Britain, Conn.

A complete walk-around display design in modern motif, this hutch cupboard is gaily decorated in eight Peter Hunt colors. Over 8 feet high, it is completely self-supporting and is especially designed for interchangeable cards that tie in with spring and summer sales events.

The cupboard is available to Universal dealers together with a com-



plete assortment of electric housewares including a Coffeematic, waffle iron, sandwich grill, mixer, mixablend, Cook-a-matic, twosome percolator, automatic toaster, heating pad, and travel iron.

Arvin — Toaster Di-play

To help merchandising-minded retailers build traffic and sales during winter and early spring selling months is the function of this new display piece introduced for Arvin toasters by Nobbitt Sparks Industries, Inc., E. 17th St., Columbus, Ind.

The new point-of-sale piece featuring automatic toasters is decked out in six eye-appealing hues—red, green, blue, yellow, brown, and black. According to the manufacturer, the fixture is suited for counter, window, or shelf display of the Arvin "Toast-Tested" toaster.

The piece is made of heavy cardboard, and the base is large enough to show one toaster. The background rises 20 inches, and includes sales messages about benefits of the toaster.

One-Package Selling!

The shortest distance from customer to profit is the sensational Everhot DeLuxe Roaster Ensemble.

● **ROASTER . . .**
precision built and full 18 quart capacity with self-basting cover, curved oven glass observation window, self regulating steam escape, and handy adjustable "2 level" lift rack. With finger tip cover control—NEW, IMPROVED and EXCLUSIVE TO EVERHOT. Provides ease and convenience of control not found in any other roaster at any price.

● **CABINET . . .**
of welded steel construction, full width door, modern functional design.

● **TIMER-CLOCK . . .**
full electric, automatic, simplified "on and off" setting, easily and quickly removed for use throughout the home. Beautiful plastic case.

● **PYREX DISH SET . . .**
five pieces guaranteed against heat breakage for one year.

● **BROILER-GRIDDLE . . .**
(and cookie sheet)—with high efficiency reflector . . . hangs on the inside of the cabinet door when not in use.

LIST PRICES

No. 950 Roaster-Oven (UT 365)	$39.95
No. 951 Cabinet	17.95
No. 927 Timer-Clock	10.95*
No. 946 Broiler-Griddle Set	7.95
Total	$76.80*

Plus $2.39 Tax

The Swartzbaugh Manufacturing Co., Toledo 6, O.

SOUTHERN REPRESENTATIVES

N. F. SCHOLLER COMPANY
(Kentucky, South Carolina, North Carolina)
5 Kirkman Avenue, Nashville, Tennessee
2626 N. Davidson, Charlotte, N. C.

J. C. SHEEHAN
(Texas, Oklahoma)
3831 Lovett Drive, Dallas, Texas

C. C. CAMOS
(Missouri, Arkansas, West Texas)
4520 Pine St., St. Louis, Missouri

R. L. WEMBERLINGTON
(Southern Washington)
709 Cobb Street, New Orleans, La.

CHENEY W. COLLINS
(Georgia, Florida, Alabama, Eastern Tennessee)
248 Spring St., N. W., Atlanta, Ga.

F. S. HOWARD
(Kentucky, West Virginia)
326 N. Illinois Building, Indianapolis, Ind.

EVERHOT

ELECTRIC HOUSEWARES

Product Parade

A-B Ranges

The new line of Aristocrat electric ranges has just been announced by A-B Stoves, Division Detroit-Michigan Stove Co., Battle Creek, Mich.

Features of the various models in the new line include built-in fluorescent light, 3-way selector switch, oven light switch, signal lights above each switch, oven temperature control, convenience outlet, built-in automatic timer, Titanium porcelain finish, and Pyrex oven windows.

Model 50-950 contains 6 surface units, double ovens which are individually heat controlled, and Pyrex oven windows.

•

Kelvinator Refrigerator

Designed for homes where kitchen space is at a premium, this 1950 Kelvinator model RC, manufactured by Kelvinator Div., Nash-Kelvinator Corp., Detroit 32, Mich., provides 6.1 cubic feet of storage capacity in a cabinet two feet wide, 26 inches deep and 55 inches tall.

Its high speed freezer stores up to 17 pounds of frozen foods and ice cubes. Extra high room for tall bottles is provided on both sides of the freezer, and any shelf may be removed easily to provide more space for more bottles or bulky foods. Mounted below the high speed freezer is an anodized aluminum chilling tray which serves also as a defrosting tray.

The large full-width sliding crisper provides moist-cold for storage of fruits and vegetables. It is finished in porcelain enamel, equipped with an independently fitted glass cover, and has a capacity of 20 quarts.

•

Window Fan

A new, popular-priced Emerson Junior 16-inch Window Fan, for 1950, is announced by The Emerson Electric Manufacturing Co., St. Louis, Mo.

The fan provides inexpensive yet effective ventilation for small homes, apartments, offices, and stores. This new single-speed fan is equipped with mounting panels which are adjustable 27½ to 36 inches in width, between window stops. A safety guard on the room side of the fan offers protection from contact with the fan.

Four large quiet-type aluminum blades deliver 2000 cubic feet of air per minute. The fan is finished in baked ivory enamel.

•

Clothes Dryer

A completely automatic electric clothes dryer has been added to the Thor line of home laundry appliances, manufactured by Thor Corporation, Chicago 50, Ill.

The new dryer is of the tumbler type and is described as fully automatic. The homemaker need only load the clothes (8 pounds dry weight) into the machine, set the drying control knob for the degree of dryness desired, push the starting button, and walk away. The machine will shut itself off when the clothes are dried to the desired degree.

The dryer cabinet measures 30 inches wide, 24¾ inches deep, and 36 inches high. It is finished in white baked enamel. The unit's outer panels are designed to be removed easily to facilitate servicing any portion of the dryer chassis.

The dryer employs a positive vacuum (or suction) drying system, drawing in outside air, heating it, and then drawing it through the clothes to withdraw the moisture. Damp-drying a load of clothes in the dryer usually requires 20 to 25 minutes; drying them fully usually takes 30 to 45 minutes.

•

Duchess Washers

The new 1950 models of Duchess Washers, manufactured by Appliance Manufacturing Co., Alliance, Ohio, are ready for immediate shipment.

The line for the coming year will consist of four models at prices of $89.95, $99.95, $109.95, and $129.95. The lowest price is the model 50 with a 7-pound capacity tub. The models 60, 80, and 90, are all 10-pound dry clothes capacity. Model 90 has a heat retaining jacket on the tub. List prices as named are for Zone No. 1.

•

Rapid Defrost Refrigerator

The first fully automatic rapid defrost system ever devised for a home refrigerator has been incorporated in a new 9.6-cubic-foot refrigerator-freezer combination now available from

the Westinghouse Electric Appliance Division, Mansfield, Ohio.

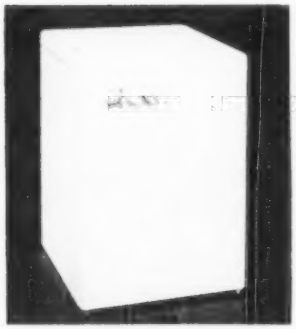
The system—called Frost Free—in the new Westinghouse ADA96 removes all frost from the refrigerator's freezer walls before it can build up. It then automatically disposes of the defrost water by quick evaporation.

Full use of the refrigerator is never in any way curtailed during the defrosting periods which are so swift that frozen foods in the freezer compartment will neither soften nor thaw while temperatures in the normal food storage area are raised less than two degrees.

•

Bendix Washer

To open up a vast new market in 1950 for the distributors and retailers handling its line, Bendix Home Appliances, Inc., South Bend 24, Ind., announces its newest agitator-type washer—the Bendix Dialamatic Economat with a suggested retail price of $169.95.



The new model employs a plastic agitator, does not spin, so requires no floor fastening, and is operated by a single dial that controls the automatic washing, automatic rinsing, and automatic squeeze-drying operation. The machine includes casters enabling it to be moved to any location. This is an especial boon to apartment dwellers who usually keep a washer in their storage room and roll it out for use—then roll it back.

•

Flexo-Steps

For displaying all types of merchandise regardless of size or shape, Flexo-Step store fixtures are available from Add Sales Company, 714 Commercial St., Manitowoc, Wis.

Advantages of these fixtures include fitting counters to the merchandise, displaying merchandise more effectively, and making quick changes in displays. Units comprising the fixtures include the base section, head

58% SALES Increase!

White

"WATER-HOTTER"

Automatic Electric Water Heater

RINGS THE (Cash Register) BELL!

Fifty-eight per cent sales increase last year—while the water heater industry as a whole declined—that's the *White dealer profit story.* National consumer advertising, competitive price, a superior product, and the quick, convincing Water-Hotter demonstration—those are the reasons.

Installation is Easy as 1-2-3!

Prospects go for White's quick, low-cost installation. The heater is simply "walked" into position, 2 pipe connections are made, and the job's done!

So Easy to Sell!

White is the handsomest heater . . . 21 ways better-built . . . competitively priced . . . backed by 5-year or 10-year Protection Plan . . . and the Water-Hotter story sells prospects on the spot. You can't ask for a better water heater proposition. Beyond that, White is perfect for remodeling, for new construction, for housing projects—fits smallest space in any kitchen or utility room. Why sell the hard way?

Ask Your White Distributor Now!

—or get in touch directly with White. The big season is at hand; do it now!

The "Water-Hotter" Principle

Water-Hotter is White's special deflector baffle designed to keep incoming cold water from diluting the hot water. Result: A NO MIX that water than ordinary heaters . . . and THAT SELLS WHITE QUICKLY, IN VOLUME!

WHITE PRODUCTS CORPORATION

Water Heating Specialists Since 1930

Middleville, Michigan

Gas or Electric

Brand new Gas and Electric Models Complete the Line of White Cylinder and Table Type All Water Heaters

"See them at your distributor's today!"

Copyright 1950, White Prod. Corp.

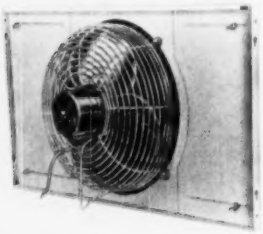
on" steps, and "side-mint" steps, all of which are removable.

An illustrated bulletin, No. 3249-5, describing combinations that can be obtained with Flexo-Steps, has been issued by the manufacturer.

•

Window Fans

THE ADDITION of a new line of portable window fans, 12-, 16-, and 20-inch models to fit standard window openings, has been announced by Kisco Co., Inc., 2400-40 DeKalb St., St. Louis 4, Mo.



All three models feature adjustable panels for quick installation. Finished in soft gray with a chromed spiral safety guard, the fans are adaptable for use as floor fans by attaching a front guard, which is available. The motor is mounted in resilient rubber and the steel panels are insulated for silent, vibrationless operation.

The 20-inch window fan utilizes a 1/12 h.p. two-speed motor, a 3-blade, 20-inch vanified air impeller, and is adjustable for window openings 29 to 34 inches. It has a rating of 3,000 c.f.m. and lists at $49.95, including tax.

The 16-inch window fan makes use of a 1/15 h.p. motor, a 4-blade, 16-inch vanified air impeller, and fits window openings 28 to 38 inches. It has a c.f.m. rating of 1,850 and retails at $29.95, including tax.

The 12-inch model has a 1/40 h.p. motor, 3-blade, 12-inch vanified air impeller, c.f.m. rating of 950, and lists at $22.95, including tax.

•

Waffle Service

THE NEW Toastmaster waffle baker and waffle service have been introduced recently for the first time since the war by Toastmaster Products Division, McGraw Electric Company.

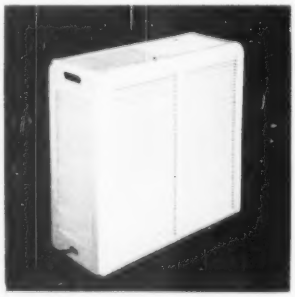
The waffle service is a 5-piece in one ensemble consisting of the batter bowl and syrup pitcher of Franciscan Ware in the new sprout-green color, chromium-plated ladle, and waffle baker, all arranged on a walnut veneer tray, inlaid with simulated leather. The waffle service is said to enable retailers to display one item and sell two, and retails for $27.50 (Fair Trade Price). The waffle baker retails at $18.95 (Fair Trade Price).

Both the baker and service will be widely advertised, and, in addition, counter and window display material, leaflets, cuts, mats, and various other sales promotion helps are available for retailer use at the point-of-sale.

•

Three-Purpose Fans

A NEW LINE of fans which are 3-purpose—exhaust, intake, and floor or table air circulator—has been announced by Lonergan Manufacturing Co., Albion, Mich.

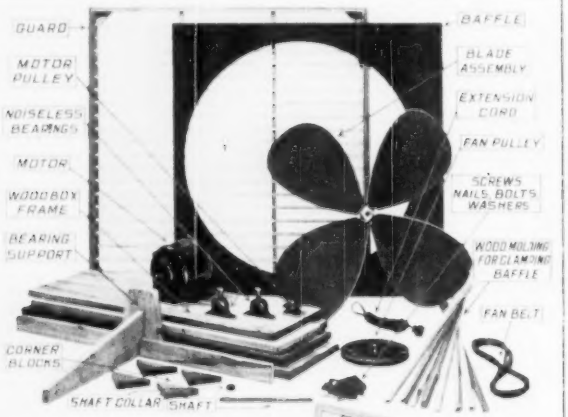


The two models are 20-inch and 24-inch, which cover many needs due to their two-speed operation and reversible feature as an exhaust fan or an intake fan. No special attachments are needed to use it as a floor fan.

Included with each fan at no extra charge is a string background which holds the fan in the window without screws or hooks. The locking device even permits placement of the fan in doorways or in steel casement windows.

The ivory baked-enamel cabinet, enclosed on all sides, protects fingers, clothing, and curtains. Built-in handles permit easy moving to any location.

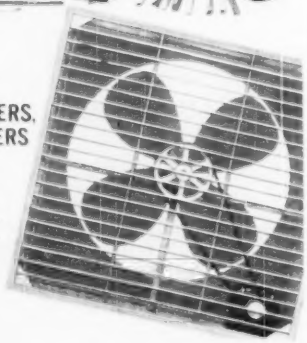
The 20-inch model delivers 4,000 c.f.m. on high speed, 2,500 c.f.m. on low



BIG MONEY FOR DEALERS, JOBBERS

With the Fastest Selling Fan Yet!

Completely packaged, everything that's needed, quality parts—at a very low price. Everybody's looking for low prices—your customers will snap 'em up. Fast seling—quick turnover—good profit!



WRITE FOR INFORMATION

S. J. STEWART [ELECTRIC]

527 St. Joseph St. New Orleans 12, La.

speed, and lists at $59.95. The 24-inch model delivers 5,000 cfm on high speed, 3,200 cfm on low speed, and lists for $69.95.

•

Housewares Week

(Continued from page 99)

full minute, designed to pound the electric housewares message from through potential customers' ears as well as their eyes.

Further suggestions to retailers include such ideas as holding a grand opening at the beginning of National Electric Housewares Week to which local dignitaries and celebrities are invited, the arrangement of outside displays at electric service company showrooms, in local food markets, movie theatres, lobbies, banks and other strategic locations, the promotion of treasure hunts, and the featuring of gift certificates during this Week.

Ideas are intended for use in dealers' direct mail, and as enclosures with current bills during and preceding National Electric Housewares Week. Visual demonstrations are urged, giving precisely the opportunity to examine and try demonstrator models of famous Electric Housewares appliances.

Window contests, special demonstration certificates, and distribution of the latter through local retailers such as butchers, bakers, vegetable dealers, etc. are proposed. The plan even goes so far as to ask for further suggestions from individual dealers so their ideas may, in turn, be passed along to other interested dealers.

Comprehensive Plan

In other words, the plan for National Electric Housewares Week is really complete and comprehensive. Preliminary indications are that it will be a huge success. At the January National Housewares Show in Chicago it was featured extensively, with displays and streamers on the booths of various manufacturers exhibiting at the show. Not only was there physical evidence of this interest, but exhibitors discussed it with visitors to their booths, and it was a topic of conversation among the representatives of the manufacturers and the visiting buyers. There was no doubt about it—this coming event really made itself felt at the show.

In case a retailer cannot obtain a kit from his electric housewares distributor, he can order by sending covering check to the Electric Housewares Section, National Electrical Manufacturers Association, 155 East 44th Street, New York 17, N. Y.

MARQUETTE

"Budgeteer"

BUDGETEER SELLING FEATURES

28 LB. "U" TYPE FREEZER — 28 pounds of Frozen Food plus "Pop Out" Aluminum trays with 28 Ice Cubes.

ROLL-A-GRIP LATCH — Opens with gentle pull, closes tightly, automatically and silently with fingertip pressure.

FULL WIDTH 20 QT. FRUIT STORAGE BIN — Keeps Fruits and Vegetables fresh and cold under full refrigeration.

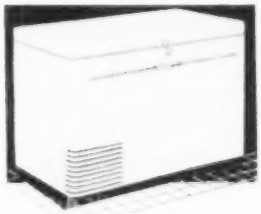
TESCUMSEH COMPRESSOR — Small in size, a Giant in Performance! Hermetically Sealed, Permanently Lubricated, Most Economical and Quietest ever developed!

OTHER FEATURES — Meat Saver Tray, 7 position Cold Control, 3 Inch Fiberglas, DuPont Dulux finish and 11 sq. ft. Shelf Area.

HERE IT IS! — a low cost, Full Size 8½ cubic foot Marquette Refrigerator of the latest design. Compare six, seven and eight cubic foot competitive models — Foot for Foot, you'll find the Marquette 8½ cu. ft. Budgeteer today's *Best* Refrigerator Value!

The Marquette Budgeteer features Full Door design and is completely refrigerated Top to Bottom. There now are FIVE Marquette Refrigerators for you to sell!

Stock Up NOW . . . for the Greatest MARQUETTE Freezer Sales in History



Model 11.5B
460 Lb. Capacity

Marquette 11½ and 16 cubic foot Freezers promise to be your "Best Sellers" for 1950. High food costs, and widespread distribution of packaged Frozen Food combine to make these larger models most attractive to customers who wish to take full advantage of quantity food buying — or for storing their own produce.

Sell the complete Line of Marquette Freezers. Model 11.5B has a generous 460 pound capacity. Model 16B holds 640 pounds of Frozen Food. Model 8B has 320 pound capacity, and the four cubic foot Model 4B has 160 pound capacity.

WRITE TODAY for complete information about the QUALITY Line of Marquette Appliances.

MARQUETTE APPLIANCES, Inc.
Minneapolis 14, Minnesota

MARQUETTE Appliances

($2.00 each for the No. 1 Deluxe Kit with background window display piece, $1.00 for the No. 2 Kit containing all the material but the window display piece).

Promotional Programs

(*Continued from page 98*)

held at the Roosevelt Hotel each weekday morning for 26 weeks from 10:00 till 11:00. About five contestants were chosen from the audience each Monday, Tuesday, Wednesday, and Thursday. The program was basically question-and-answer, and each of the four winners during the week competed on Friday for a trip to New York, all expenses paid for two.

Color Television

(*Continued from page 97*)

3. Public hearings then would be required, after which the Commission could promulgate final standards with confidence that they provide the best framework that engineers can devise for a satisfying and permanent color service in the public interest.

The above procedure parallels that which was used a decade ago for the development of standards for black-and-white television. The proposed standards developed then by the first National Television System Committee, also sponsored by the Radio Manufacturers Association, still form the keystone of today's extensive and satisfying black-and-white broadcasting service.

The establishment of color standards would give the "go-ahead" signal to the manufacturers of transmission equipment and receiving sets. They could then develop the designs they plan to put on the commercial market; test them in the field; plan their assembly lines and production techniques; inform their suppliers of the component parts that will be needed; and finally, after the pipelines from their suppliers (and their suppliers' suppliers) fill up, get into commercial production.

Question. What does this all add up to in terms of when color television will become available?

Answer. No one can say with any certainty, but obviously not for considerable time.

All groups — consumers, manufacturers, broadcasters, advertisers — would like to have color television just as soon as it is technically and economically feasible.

Scientists know enough about color to be sure that it can be developed. There is no question about that. But putting a timetable on research is impossible. Obviously, it is anyone's guess. But you can recognize why some experts are reluctant to fix a date and others talk about "years" rather than "months" when they do their guesstimating about a timetable for color television.

Question. Pending a final decision on color, what other action on television should be taken by the FCC?

Answer. As soon as possible, the FCC should lift the existing "freeze" on authorizations for the construction of additional television broadcasting facilities utilizing the existing very high frequency (VHF) channels, and also establish additional broadcasting channels in the ultra-high frequencies (UHF) range of the radio spectrum.

Until this action is taken, many sections of the country will have no television service whatsoever, and set owners in still other sections will have an inadequate number of stations from which to select a program that they like.

The National Television System Committee, in addition to its work with color television, is fully qualified to develop any additional technical information which FCC may require before taking this next major step in the development of a truly nationwide television service.

Clever Merchandising

(*Continued from page 95*)

the electrical living appliances possible to his home, as rapidly as he can, with the store paying a large part of the expense. As a result, when the prospect comes in for information on a home freezer, garbage disposal machine, automatic laundry, etc., there is always one real expert on hand who is utilizing the same equipment in his own home.

"Thus, we can turn the prospect over to the man who is most qualified to sell her—and if it seems wise, the salesman can simply put the prospect into his car, and wheel her out to his home for an actual home demonstration."

There are many of the appliances which are used in common by all of the salesmen. For example, each home has a home freezer, which has contributed heavily to the 50-up volume sold in 1948 and 1949. Likewise, each salesman and his family utilizes electric blankets, FM radios, etc. Eventually, the Boldic-Johnson firm hopes to have each of its permanent

Highest Quality Water Heaters at COMMON SENSE COST

Important selling features make these water heaters move fast and yield greater profits to you

- Elno Rustopper Anode Rod
- Wheeling Extra Heavy Tank
- Westinghouse Heating Element and Thermostat
- Fibre Glass Insulation
- Ten year guarantee and warranty plan
- Peak Performance — — Peak Profit
- Table Top and Upright Models

Write for Full Information and Literature

ADACAR MANUFACTURING CO.

NAPIER FIELD DOTHAN, ALA

ment salesmen's homes an "electrical living laboratory" which will serve as a second showroom in clinching difficult sales.

"The difference in the approach to the customer which this sort of background makes is amazing," Manager Bishop indicated, "and the customer can readily appreciate it. Instead of merely repeating the information found in advertising folders, promotional signs, etc., the salesman talks from personal experience, and can often add comments from his wife or other members of the family as to what the appliance has done for home living. Asking the prospective customer if she would like to visit the home and see the appliance in operation almost invariably gets an excellent response. In this way, we feel, we thus have five showrooms instead of one from a specific standpoint."

Heavily emphasized in sales made in this way is the fact that the Boddie-Johnson firm handles all of its own service. A staff of two mechanics is employed, including specialists in every type of appliance sold by the store, with a small reconditioning shop in addition for cleaning up and reselling trade-in refrigerators. In three years of operation in the downtown location, Boddie-Johnson has consistently shown a profit on trade-in refrigerators. Largely responsible for this is the fact that each salesman is carefully drilled on the cost of refrigerator repair, ultimate sales price possibilities, etc., until no outlandish allowance offers are made.

"We average between $10 and $25 profit on every refrigerator we take in trade, no matter how much reconditioning work must be done on it," Mr. Bishop summed up, "and during the entire time, we have had only one box which proved prohibitively expensive to recondition."

Selling Service

(Continued from page 94)

of his four points for competitive selling.

Conditions are tighter for everybody. All consumers are increasingly reluctant to part with their money. But they will part with small sums. By stressing easy terms for repairs running ten dollars and over, we get floods of answers to our postal card mailings.

"It is almost as important to stress the guarantee, however, as it is the easy terms. So all of our cards tell people that service work here at Simmonds Radio carries a 90-day guarantee, and that they can pay cash, charge it, or arrange terms with us which can be as easy as a dollar down and a dollar each week."

Sometimes, Mr. Simmonds puts the do-it-fast pressure on in his mailings. One of the postal cards which was sent out recently told the prospects that if they brought the card in with their orders (within a stated short period of time), the card would be counted as a credit of one dollar toward any new purchase, or toward a service job costing ten dollars or better.

No business, however many customers it gets in with slick advertising and with easy terms, can last long unless people like it. That is why Mr. Simmonds lays such heavy stress upon keeping up good customer relations for Simmonds Radio.

"We have 12 employees here," he says, "and once each week, on Monday morning, we hold an informal meeting. The general continuing theme of all of these meetings is good customer relations. "I talk to

SERIES 250 HEETAIRES . . . 1000 TO 6000 WATTS WITH OR WITHOUT BUILT-IN THERMOSTATS

No matter what your customers want in wall inserts, wall attachable and portable space heaters—You've got it . . . IF YOU SELL

HEETAIRES

The HEETAIRE Line gives you ALL of these:

- ★ Radiant Heat
- ★ Black Heat
- ★ Fan-Forced Heat
- ★ Patented Neo-Glo Elements
- ★ 1000 to 6000 Watts
- ★ Wall Inserts
- ★ Wall Attachables
- ★ Portables
- ★ Built-In Thermostats
- ★ Nuchrome Finish
- ★ External Thermostats
- ★ Graytone Finish
- ★ Ivory Finish
- ★ 115-120 and 220-240 Volts
- ★ Underwriters Laboratories Seal

UL

DEALERS . . . Write us for your free "GUIDE TO QUICK HEATING"—and the name of your nearest HEETAIRE wholesaler.

WHOLESALERS . . . We'll be glad to send you the complete HEETAIRE sales-and-profit story—and the name of our representative in your territory.

MARKEL ELECTRIC PRODUCTS, INC. **LA SALLE LIGHTING PRODUCTS, INC.**

139 SENECA STREET • BUFFALO 3, N. Y.

YOU GET
A SOCK FULL
OF PROFIT
SELLING
Viking
WINDOW FANS

WITH
LONGER
PROFIT
MARGINS

Viking
AIR CONDITIONING CORP.
5601 Walworth, Cleveland 2, O.

the men, and they each talk, too," he says. "These are not designed as lectures; instead, they are friendly meetings in which all of us try to arrive at solutions affecting the business as a whole. Often, the best ideas, and the best procedures for efficiency, better customer relations, or salesmanship, originate with one or another of the 12 good men who work here.

"Generally, a session will go something like this, without naming any names. I will mention that during the past week, I noticed that one thing was being done, and that it struck me this wasn't such a hot idea; the customers wouldn't like it. Then I throw the ball out to my co-workers by asking them for suggestions on how to do things better, and make more people enjoy coming to Simonds Radio and calling Simonds Radio on the telephone."

One of the most important men in Simonds' set-up, for building good will as well as for getting business, is the telephone solicitor.

"He sits at the phone calling numbers all day long to drum up new business," says Ernie Simonds. "He also handles a very important part of our set-up: smoothing down angry customers, handling adjustments—and making friends."

Trade-in Servicing

(Continued from page 91)

and a stock of all-purpose hardware, which can replace broken or unsightly hinges, snap locks, interior hardware, etc., in trade-in boxes. All service operations are in charge of veteran Jack Manion, whom Haber and Sparks credit with being something of a genius in getting used refrigerators into tip-top working condition.

Every refrigerator, as soon as the trade-in allowance is made, is picked up by the same truck which brings out the new box, and dispatched immediately to the shop. Appliance Center, Inc., allows from $50 to $60 on old refrigerators, and bases its resale price on that amount plus handling cost, the cost of reconditioning and other features.

Naturally, our trade-ins sell at a higher price than usual," Sparks indicated. "However, due to the extensive guarantee we give, and the fact that we have never had a callback or complaint on any of our trade-ins, prospects who are looking for long continued service invariably come to us."

The trade-in refrigerators, after being torn down, are carefully inspected, all worn or broken parts replaced, and the compressor unit given a thorough test of 48 hours or more before re-installation in the cabinet. The cabinet, meanwhile, is stripped of all old hardware, the latter being replaced with bright, shiny, new chromium, which goes a long way toward impressing customers with the quality of the shop's work.

Of course, we could sell the used boxes with the same hardware, merely painted over and cleaned up," Sparks said. "But it has been our experience that a new chromium handle, new chromium hinges, etc., adds much lustre to the refrigerator and will permit selling it at a considerably higher price without complaint.

One of the most important "gimmicks" which Appliance Center, Inc., has developed is replacement of all of the old wire rack shelving of trade-ins with new, chromium-plated varieties.

"The shelving is invariably an indication of how much the refrigerator has been used," it was pointed out, "just as the floor mat in a used car details how much abuse the car has had to a practiced eye. Therefore, we invariably discard the old shelving, unless by some miracle it is in tip-top condition, and replace it throughout. The effect which this has when a customer peeks into a trade-in is amazing. Men and women alike invariably reason that if the box interior appears in such excellent condition, the refrigeration unit, coils, etc., must be in likewise good shape."

Instead of merely "cleaning up" cabinet exteriors, such as many dealers practice, Appliance Center, Inc., carefully repaints every box, unless in some rare instance the paint requires no touchup whatsoever. The old paint job is sanded down, cleaned off with an acid bath, and the refrigerator repainted with anywhere from two to four coats, thoroughly dried, and touched up for a like-new appearance. Appliance Center, Inc., puts a lot of emphasis on paint jobs, inasmuch as some old refrigerators, apparently too unsightly to sell what they arrive at the shop, glisten with new appearance due to a smooth new paint job, additional chromium added, etc.

These are two of the basic steps in keeping trade-ins profitable at the Kentucky store. Neal, Sparky and Haber have developed a series of clever promotional "stunt ads" which have gotten excellent results in turning over the stock of trade-ins as they accumulate. Instead of advertising each box as soon as it is reconditioned and shoved out on the sales floor, the store permits them to accumulate until enough are on hand to hold a "trade-in sale." These colorful news-

Do you read

ELECTRICAL SOUTH

Regularly?

ELECTRICAL SOUTH serves the specific needs of specialists within the industry. It serves also as a forum or common meeting ground where problems that affect several branches of the industry are discussed to the mutual advantage of all.

If you're looking at the other fellow's book, you can have your own copy each month for three years for only $2.00. Send your name and address and remittance now . . . or send your name and address, and we'll bill you later.

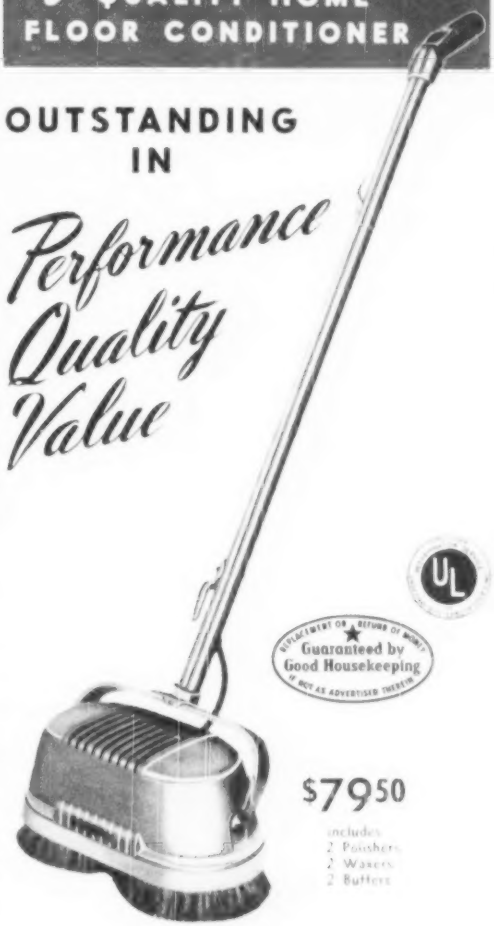
ELECTRICAL SOUTH. Now, in its 29th year serving the nation's fastest growing electrical market—the South and Southwest. a W. R. C. Smith Publication. 806 Peachtree St. N. E., Atlanta 5, Ga.

General T-12

QUALITY HOME FLOOR CONDITIONER

OUTSTANDING IN

Performance
Quality
Value



UL

REPLACEMENT OR REFUND OF MONEY
★ Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

$79.50

includes
2 Polishers
2 Waxers
2 Buffers

Concentrate on the floor machine that gives your customers greatest VALUE—greatest QUALITY—greatest PERFORMANCE! The machine that gives YOU greatest SALES—greatest PROFIT. Point-to-point, feature-by-feature it's GENERAL . . . for ONLY GENERAL provides

- Greater brush [illegible] over 12" and no gap between brushes!
- Larger, more fully backed brushes with longer fibres—get 3 times longer brush life
- All easy to clean chrome and polished aluminum surfaces—no paint or enamel to chip or crack
- A COMPLETE line of attachments. When you sell a GENERAL you sell as a continuing demand for attachments
- Side Handles, replacing long handle for polishing furniture, tables, even autos with ease
- Fine round magazine and newspaper advertising
- Slight extra cost

General T-12 is the *big profit* opportunity. Write now for full information on the GENERAL T-12.

GENERAL FLOORCRAFT, Inc.

Dept. ES3 333 Sixth Ave. New York N. Y.

All water heaters are *not* alike!

Take a GOOD LOOK

at

FOWLER

Porcelined

(GLASS-LINED)

Water Heaters

40-gallon Fowler Electric Water Heater. Approved by Underwriters' Laboratories

There are lots of things about Fowler porcelined Water Heaters you won't find in other makes.

Features like these make Fowler the easiest-to-sell water heater on the market today:

Electric

WATER HEATERS

Porcelain-lined tanks cannot rust, last longer. Triple, built-in insulation—dead air space; aluminum reflector jacket; 3-inch Fiberglas. Adjustable, economy temperature controls. Safe "Black Heat" lock-on, external-type elements provide efficiency and long life. Capacities: 5 to 80 gals. (Table Top models: 30 and 40 gals.) 20 year protection plan. Approved by Underwriters' Laboratories.

Gas

WATER HEATERS

Fowler Gas Water Heaters have many outstanding features including porcelain-lined tanks. Capacities: 22 gals., 33 gals., and 44 gals. Approved by AGA. 15 year protection plan.

BUILT RIGHT by a manufacturer with more than 35 years of water heating experience.

LOWEST PRICED The lowest priced line of non-corrosive tank water heaters being offered to the independent dealer.

Dealers! Distributors!

GET THE WHOLE STORY

Send for complete information

TODAY!

FOWLER MANUFACTURING COMPANY

2545 S. E. Gladstone • Portland 2, Oregon

Please send complete information about Fowler Electric and Gas Water Heaters.

Dealer: _____

Address: _____

Distributor: _____

Address: _____

paper ads, designed to attract county-wide attention are released in the Henderson Evening Journal, local newspaper.

"Newspaper advertising has got to be unique to catch much attention in the major appliance field," Haber pointed out, "due to the fact that almost every paper is crammed with new refrigerator ads, with the emphasis on price."

Perhaps the most sensational ad which Appliance Center, Inc., has worked out to date was a 1/3-page ad headed "Murder stuns Appliance Center!" Below, copy stated, "It's the crime of '49—Yes, it's murder! Look at these slaughtered prices!" Beneath were 6 cuts and listings of trade-in refrigerators, thoroughly reconditioned in the shop. The ad offered 6 refrigerators of one make at $99.50 each, 1 of another make at $99.50, another at $109.50, 5 of another type at $99.50, and one at $109.50. No reference was made in the ad to the fact that the refrigerators were trade-ins, but hand-drawn cuts to the left of each column showed the outline of an old-fashioned box.

"There was no attempt to fool the public," Sparks smiled, "since every housewife realized as soon as she read the ad that a rebuilt trade-in was concerned. Nevertheless, by playing up the murder angle, this one ad sold 13 trade-in refrigerators over the space of a few days."

Reconditioning operations go on busily in the Appliance Center shop daily. As usual, Sparks and Haber intend to accumulate enough for another such scintillating sale, and to use the same kind of eye-attracting promotion.

"Trade-ins must be handled to make a success of appliance merchandising under today's conditions," the partners summed up, "and this situation will become even more important in the near future."

Hiring Salesmen

(*Continued from page 90*)

right qualifications protects that investment, and it soon starts paying dividends in the fact that

1. Sales are increased.
2. Customer good will is protected.
3. A strong sales force is built.
4. The dealer has better assurance of future success.

Finding men with the **right qualifications** gives the dealer a sales staff that can be developed by training and that will be industrious, productive, satisfied, and stable.

The chief qualifications for judging successful salesmen were found to be:

1. Sales personality: friendly and sociable, good appearance, enthusiasm, self-confidence, pleasing manner, and tact.
2. Industry and persistence: ambition, aggressiveness, and initiative.
3. Intelligence: ability to grasp ideas quickly, ability to express himself, sales sense, memory, judgment, and education and experience.
4. Health.
5. Responsibility: home ownership, marriage status, dependents, and insurance, bonds, etc.

By using correctly the selection procedure we have been discussing, the dealer will be more certain to hire men who have the right qualifications for success. But hiring qualified men is not enough. Each new man must be started right.

Proper orientation is necessary in order that the new salesman can quickly become productive. No matter how well qualified a new man is, the dealer cannot hope for the best results from him unless he is started on the job in the right way.

But before we talk about what the dealer should do in orienting a salesman, let's make sure we understand clearly just what "orientation" means.

In general, "orientation" means "getting one's bearings," or in the case of a new employee, getting acquainted with his surroundings and working conditions. But still more important, it also means getting into the *spirit* of the job.

R. H. Grant, one of the world's most successful sales managers, formerly sales manager of Frigidaire and now a director of the General Motors Corporation, said, "It's the *spirit* of a selling organization that counts."

For best results orientation should follow a definite procedure:

1. Arouse enthusiasm for the job.
2. Point out the necessity of hard work.
3. Sell the salesman on the dealership.
4. Explain the dealer's operations.
5. Introduce the new man to the organization.
6. Start his training.

By following this procedure, the dealer can be certain of giving the new man the right start.

Rural Selling

(*Continued from page 89*)

prospect for electric heat. He is able to show him that even in an old home, well insulated and weather-stripped, he can drive the chills out of the atmosphere with electricity for less cost than with coal. When he is shown that the installation cost of

electric heat will average near about the same as with a coal furnace, the idea becomes intriguing.

One interesting and profitable fact about a farm customer is that after you once win him on the initial wiring job, he becomes the best repeat buyer in the electric field. After he is hooked to a power line he has to buy everything from scratch, and he can profitably use ten to 20 times more electric service than the average city resident. After Herndon wires the home, he has a chance a few months later to wire the barns, tenant houses, smoke house, etc. The same farmer then buys a water system, milking machine, milk cooler, hot water for dairy, motors for all kinds of farm machinery, water extensions to barns, fields, and many other kinds for which the city home is no prospect at all.

In offering these services, Herndon has an argument that shatters sales resistance like nobody's business. That is, that nearly all of them save the farmer more money than he had to pay out when he had to do the same jobs by main strength and awkwardness. "Just think," he reminds the farmer, "how much hired hand labor a nickel's worth of electricity will displace in pumping water, milking cows, separating cream, hauling ice, coal, doing the week's wash, and the other jobs around the farm." In these days of high-priced and hard-to-get farm labor, the farmer is more labor-conscious than anyone else.

The accumulated backlog of farm customers has given Herndon another fine source of revenue. That is the service work for these same buyers. He has service trucks for each class of work—refrigeration, radio and appliances, plumbing, etc. He holds his regular farm customers to him by guaranteeing that when he does a wiring job or any other installation for one, the customer gets first call on him over all non-regulars for servicing. He installs all his own ranges, home freezers, water heaters, coolers, etc., and stands back of his work. Some of the appliances, of course, get a certain amount of servicing free of cost, for a certain period. But his system is one that provides every possible inducement to cement the customer to him on a permanent basis.

Whenever a Herndon serviceman goes out on a job, he is required to take every possible repair tool and all conceivable replacement supplies that by any stretch of the imagination will be needed on the job. "There's nothing that will destroy more patronage than for a serviceman to have to come back to the store for more wire or for a certain kind of wrench he failed to carry with him the first time," explained Herndon. He went on to explain that although he has to charge more per hour for his labor than the inefficient contractor who uses inexperienced labor or inferior supplies, he actually saves the customer money on the labor cost by doing the job much more quickly.

Mr. Herndon has ten servicemen. Mrs. Herndon operates the store while Wallace is in and out making new sales or supervising his jobs. Mrs. Herndon is a fine saleswoman and the team is an ideal family partnership.

Behind the store proper is the warehouse containing the surplus electrical supplies and appliances. Wallace orders refrigerators by the carload, gets the volume advantages, and discounts all his bills.

On the lot back of the store and warehouse is a large, open-front building containing the shop and additional supplies, as well as parking and loading space for the firm's trucks.

DAVIS

Headquarters FOR ELECTRICAL CORD SETS

"WRIST ACTION" CORD SET

Wireless swivel plug turns, bends, swings, spins — eliminates all cord wear, 95% of all cord troubles. Exclusive, patented design. A proven seller. Attractive display cord free.

RANGE CONNECTORS

Finest quality cord and receptacles, including new flush range receptacle. Underwriter's Approved. 220 volt, 50 amperes. Eliminates costly electrical work in connecting ranges.

See your jobber or write direct for full details and prices.

DAVIS Mfg. Company

PLANO 1, ILLINOIS

Southeast Rep. H. K. Dawes Co. Walton Bldg. Atlanta Ga. — Southwest Rep. M. C. Hunt Co. Thomas Bldg. Dallas, Tex.

New! EASY-TO-SELL

FASCO ARCTICAIRE FANS for '50

The Line that SOLD OUT in '49 Now FOUR WAYS BETTER for '50

Model N-55 12" Lo-Level Fan 3 speeds (Also available for '50 in 10" size single speed)

● NEW SIZES
The beautiful, fast-selling FASCO Lo-Level Fan . . . now made in TWO sizes . . . 12"—three speeds . . . and 10"—single speed.

● NEW FINISHES
Always leaps in eye appeal . . . FASCO Fans for '50 are color-styled, finished for new beauty that lasts for years.

● NEW MODELS
You'll see several other new sure-fire sellers at the Housewares Show . . . or WRITE NOW for advance information . . . they're the hottest news in the industry.

● NEW EFFICIENCY
FASCO Fans for '50 are again out front in overall performance . . . delivering more air, more quietly, with longer trouble-free life.

16" Model N-163 DeLuxe Heavy Duty — 10" Model N-103 Standard — 12" Model N-128 Heavy Duty

12" Model N-121 Standard — 10" Model N-101 DeLuxe Heavy Duty — 16" Pedestal Model N-165 Adjustable in height—4 to 7 ft.

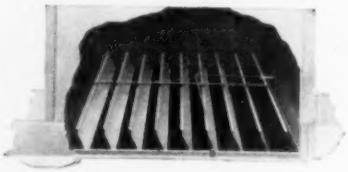
WRITE!
Be sure to get your copy of the 1950 FAN CATALOG . . . NOW!

FASCO INDUSTRIES, INC. ROCHESTER 2, N. Y.

Elgo Ventilating Specialties

A Leader In Automatic Shutters

The Elgo Automatic Shutter is the favorite of many large users because of its outstanding features. Easier opening and tighter closing. Louver blades equipped with special felt silencing pads. Sizes from 8" to 72" square — also rectangular.



"Echo" Automatic Ceiling Shutters

Used for attic ventilation. Installed in attic floor at the base of a penthouse, the louvers being operated by the suction of the fan.

Free CATALOG

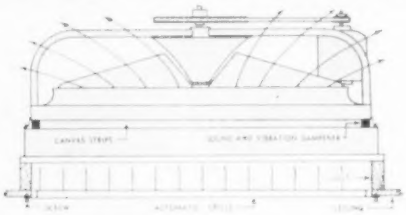
ELGO SHUTTER & MFG. CO.
2738 W. WARREN DETROIT 8, MICH.

Get set for next summer's sales with the great

Quietaire

THE REVOLUTIONARY ATTIC FAN THAT

SELLS FOR LESS, OFFERS BIGGER DEALER PROFITS



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"Handbook of Residential Wiring Design" and "Handbook of Farmstead Wiring Design" summarizing the latest authoritative information on adequate wiring systems, may be obtained with a three-year subscription to Electrical South at the special price of $2.50 for a limited time. Send name, address, and remittance at once to make sure of getting your copies.

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PRACTICAL SHOP TRAINING

in

ELECTRICITY, MAJOR APPLIANCE

Service, Maintenance, Installation

Write for Catalog ES5—Veterans ask about GI Training

Manufacturers, distributors, etc., when you need TRAINED men contact CTI Placement Bureau.

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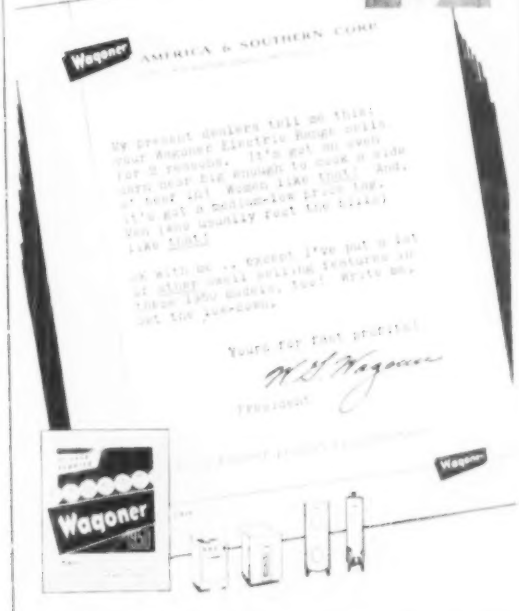
Wagoner

LARGEST OVEN MADE

at a price that sells on sight



Mr. W. G. Wagoner, President
AMERICA & SOUTHERN CORP., Nashville 10, Tennessee

Please send me booklet S-2 which describes the complete line of Wagoner Products . . . free of charge and without obligation, of course!

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STORE NAME _____

ADDRESS _____

CITY _____ STATE _____

KISCO

CIRCULAIR

The "Successor to the Fan"

REG. NO. 325746

Cocktail Table

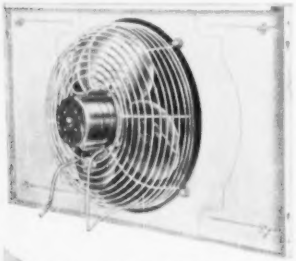
Table-Air

Regal-Aire

There's simply no comparison . . . KISCO CIRCULAIR Air Circulators are far and away out in front with smart styling, superior metal construction, dependable performance . . . and values which lead the field.

KISCO WINDOW FANS

The last word in quiet, cool comfort. Each unit carefully engineered, designed and constructed to insure quiet, efficient performance. Listed by Underwriter's Laboratories and fully guaranteed by Kisco.



3 SIZES AVAILABLE

12 Inch
16 Inch
20 Inch

Adjustable to fit practically all window openings

Kisco CIRCULAIR . . . The COMPLETE Line . Fifteen Different Models

KISCO COMPANY inc.

2400-40 DEKALB STREET, ST. LOUIS 4, MO.

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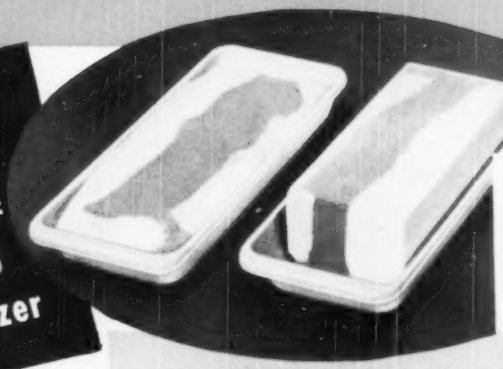
Only ONE refrigerator

CAN PASS THIS ICE CREAM TEST...

...of course, it's electric!

It's the Great New Westinghouse* FROST-FREE Refrigerator-Freezer



The ice cream on the left has gone through the so-called automatic defrosting cycle... that on the right has gone through the "Frost-Free" defrosting cycle.

This Ice Cream Test Clinches the Sale Hands Down!

Only the great new Westinghouse keeps ice cream "brick hard" through the entire defrosting cycle! No other refrigerator automatically defrosts itself *before frost builds up*—so fast even ice cream stays hard . . . and no other refrigerator automatically disposes of defrost water.

Alert Westinghouse retailers are featuring "Frost-Free" . . . in ads, billboards, car cards and store displays. And they're attracting customers by the score to see . . . and buy . . . from the Westinghouse "Finest-in-'50" line.

The amazing story of two bricks of ice cream is a top-notch sales clincher time after time!

*Trade Mark

WESTINGHOUSE "Finest-in-'50" SALES HELPS

The "Frost-Free" and "Polar Polly" displays stop traffic . . . provide plenty of action and sell. Other display and promotion material—Selling Books, Folders, Posters—make it easy to "Demonstrate-to-Sell" the Westinghouse "Finest-in-'50" line.

WESTINGHOUSE ELECTRIC CORPORATION
Appliance Division • Mansfield, Ohio
See T-V's Top Dramatic Show..."STUDIO ONE"...Every Week

YOU CAN BE SURE..IF IT'S Westinghouse

Move more fans with fans that move more air!

Shovelaire®

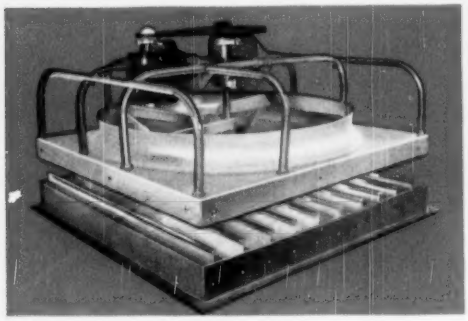
— FANS FOR INDUSTRIAL COMMERCIAL and HOME USES!

The new 1950 line of Shovelaire fans offers every type from a 10 inch "buzz" fan with 982 CFM to a heavy industrial exhaust fan with 22,300 CFM capacity. There's a Shovelaire fan to handle your ventilating requirement better, at lower cost.

"Old Reliable" Shovelaire

EXHAUST FANS

Nine different models in exhaust fans that defy comparison. For home, shop, factory or general commercial use. Maximum air delivery, minimum noise. Variable 3-speed pulleys. Check catalog for features.



Low attic clearance in Shovelaire

VERTICAL DISCHARGE FANS

In 3 sizes; 8 speed pulley; patented Shovelaire blades; ball-bearing shaft; lightweight tubular steel steel frame, rectangular to save space. Operates vertically or horizontally. Shutter optional. 30" fan (7100 CFM) lists as low as $109.50.

Wide range of prices on Shovelaire

THIN WINDOW FANS

Only 5 inches thick. Compact, efficient and beautifully designed. Economy group includes 3 models. Deluxe VERI-THIN group offers two sizes, 4-speed reversible. Moves more air than any other window fan of equal size.

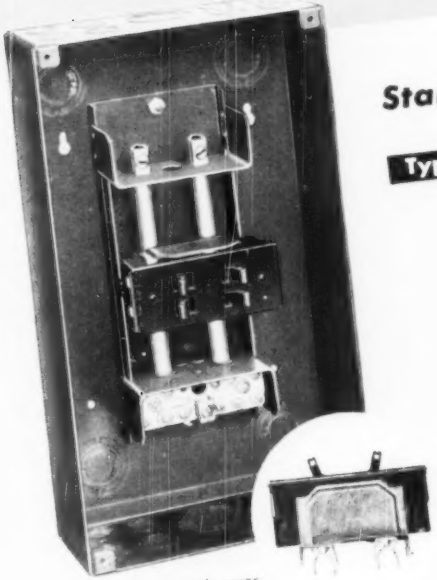
Distributors: Investigate the Shovelaire plan. Write for prices and literature.

Dealers: Write for new catalog. See the line, get prices and name of nearest distributor.

C&H Air Conditioning Fan Company, Inc.

General Offices . . . 1603 Dekalb Ave., N. E.
Atlanta, Ga.

NOW... *"plug-in" type* MULTI-BREAKER LOAD CENTERS



Type MO 12 with cover removed and additional unit ready for installation.

Start with 4 . . . Add More

Type MO 12 consists of box with bus structure and one 4-circuit "plug-in" unit in place. One or two additional 2 or 4 circuit units can be plugged on the bus structure—giving 6, 8, 10 or 12 circuits as required.

Plug-in Units are available in ratings of 15, 20, 30, 40 and 50 amperes, 120/240 volts A.C. Handle ties permit converting of adjacent poles of similar capacity on each breaker unit into double-pole, individual trip circuits. Breaker units are identical with those used in MO Panelette and NMO Panelboard. They are *individually packaged* but can be added to basic device carton, after selection.

3-, 4 wire arrangement is also available.

Flush or Surface mounting. Either cover can be added to basic device carton, after selection.

Type MO 20 with cover on and all five 4-circuit units installed.

Type MO 20 is similar to type MO 12 but it provides space for as many as four additional 2 or 4 circuit "plug-in" units—giving 6, 8, 10, 12, 14, 16, 18 or 20 circuits as required.

Write for Bulletin SA 590 . . . it gives the complete story. Address Square D Company, 6060 Rivard St., Detroit 11, Michigan.

THERMAL-MAGNETIC BREAKER UNITS GIVE 2-WAY PROTECTION

Thermal element responds to heating effects of both load current and surrounding atmosphere. *Total temperature* is limited to a safe value. **Magnetic** element responds instantly to heavy overloads or shorts. Damage is minimized.

Both ELEMENTS ARE NEEDED FOR *Complete* PROTECTION!

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

WIRING NEWS

A PERIODICAL DIGEST OF WIRING IDEAS FROM THE GENERAL ELECTRIC CONSTRUCTION MATERIALS DEPARTMENT

Dream-home Lighting For Every Type of Home

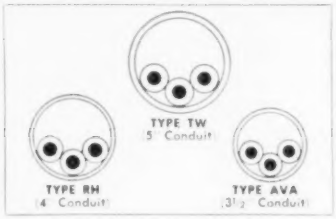
Today's prospective home buyers are harder to "sell." They insist on modern planning and conveniences . . . they look for extras . . . they demand proof of quality before they buy. That's why architects and builders recognize the value of the General Electric remote-control wiring system as a spur to added home sales.

This step-saving, new wiring system at last makes dream home electrical control a reality. Simple and fast to install, it is easily demonstrated to the prospect. Unobtrusive flush switches at convenient locations give instant, positive ON and OFF control of any light or electrical apparatus. And, while you're demonstrating remote control, you'll have the added "sell" of the General Electric monogram.

For Low-Cost Homes

General Electric remote-control system is practical for even budget-price housing. Designed to fit in with existing techniques, remote control requires the same tools and methods needed to install present power circuits. You merely snap a small relay into knockout of outlet box. Inexpensive wire can then be run from relay to centrally-located transformer and conveniently-placed switches.

For further information why not contact your General Electric Construction Materials distributor, or check item (A) in the coupon below.



Here's How to Supply 49% More Current Per Raceway

Here's a really easy way to increase circuit capacity *without* increasing raceway size—just rewire with General Electric Deltabeston® asbestos-varnished cambric cables!

Insulated with heat-defying asbestos, Deltabeston AVA cables meet the requirements for small diameter cables in heavy-load jobs involving high temperatures. That's why at normal ambient temperatures (in dry locations, as specified by National Electrical Code) AVA cables can deliver up to 49%* more current per raceway than ordinary types of building wires.

Saves on New Work

In new construction, too, because of their heat-resisting asbestos insulation, AVA cables often permit smaller conductors, reduced raceway sizes, and over-all savings on weight.

If you have not considered asbestos-varnished cambric cables for space and materials savings, you'll do well to figure them in on your next heavy-load job. It may amaze you to discover what real savings you can offer with Deltabeston AVA cables.

For further information, consult your local General Electric distributor or check box (B) in the coupon below.

*(This figure was worked out for AVA cables at 1000 MCM. Other sizes offer similar savings.)

You Know You're Right With "G-E White"

There's no question about it. You get top wiring protection when you use General Electric white rigid conduit.

Carefully controlled in manufacture from raw material to final inspection, G-E White offers the advantages of a uniform, high quality product. Top-quality steel, *hot-dip-galvanized*, inside and outside, means years of protection from atmospheric corrosion. Smooth Glyptal® finish adds *plus* protection, makes wire pulling easy and fast.

During installation you'll appreciate the uniformity of G-E White. You'll like the way it cuts waste by eliminating flat bends. You'll like its sharp, clean threads.

For top protection use General Electric white rigid conduit. And remember General Electric also supplies a complete line of fittings and accessories. For information on conduit, check box (C) in coupon.

Light Weight Makes Light Work Of Residential Wiring

Light weight . . . small diameter . . . easy stripping. These features make General Electric PVX® nonmetallic sheathed cable a real time saver in all types of residential work.

Glass-and-cotton braid resists both moisture and flame. Individual conductors are insulated with a Type T thermoplastic compound and spiral-wrapped with impregnated crushed-paper armor to provide maximum dielectric and mechanical strength. Check PVX at your local G-E distributor's, or check box (D) in the coupon.

Look For The Red Reset Button For Improved Lighting

For more satisfied customers . . . fewer call backs . . . make sure you replace worn-out fluorescent starters with General Electric Watch Dog® starters—the starter with the red reset button.

Watch Dog starters automatically cut failing lamps out of the circuit—eliminate annoying flicker and blink. They protect ballast and internal fixture wiring from expensive "burn-outs." So, when you specify or buy, be sure to ask for Watch Dogs!

Section K3-324
Construction Materials Department
General Electric Company
Bridgeport 2, Connecticut

Please send me free information on:

- A ☐ Remote Control
- B ☐ AVA Cables
- C ☐ White Rigid Conduit
- D ☐ PVX Cable
- E ☐ Watch Dog Starters

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

GENERAL ELECTRIC